BARBADOS.

DEPARTMENT OF AGRICULTURE.

REPORT

ON THE

SUGAR-CANE EXPERIMENTS

FOR THE SEASON BETWEEN

1920—1922.

PARTS I & II

Manurial Experiments with Sugar-cane.

PART III

Experiments with Varieties of Sugar-cane.

IMPERIAL BUREAU
19 FEB 1923
MYCOLOGY

BY

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CONDUCTED IN BARBADOS DURING THE SEASON 1920—1922.

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The experiments are described in three parts, viz:—

Part I—Composition of Barbados rainfall.

Part II—Manurial and other experiments with sugar canes.

Part III—Experiments with varieties of sugar-cane.

EXPLANATION OF TERMS USED IN THIS REPORT.

Per cent. by number of rotten canes is the number of rotten canes in 100 canes (good and rotten.)

Sp. Gr. $\frac{30°C.}{16{\cdot}6°C.}$ is the weight of a given volume of juice at a temperature of 30° Centrigrade divided by the weight of an equal volume of water at a temperature of 16·6° Centigrade. A gallon of water at 16·6° Centigrade (i.e. 62° Fahrenheit) weighs 10 lb.; the Sp. Gr. $\frac{30° C}{16{\cdot}6° C}$ therefore serves to ascertain the volume of the juice from its weight or *vice versa.*

Per cent. of juice by mill is the number of pounds of juice expressed from 100 lb. of canes.

Quotient of purity is the number of pounds saccharose (cane sugar) in 100 lb. of the total solids in the cane juice.

Saccharose is the chemical name for pure cane sugar. It is the same as sucrose. Refined cane sugar is almost pure saccharose, containing when deprived of traces of water nearly 100 per cent. of saccharose.

Muscovado yield is the amount of muscovado sugar theoretically obtainable from the total saccharose in the juice estimated in tons. It is assumed that the juice has a high quotient of purity and will yield 80 per cent. of its saccharose as muscovado sugar.

The quotient of purity and the glucose ratio of a sample of juice influence greatly the recovery of marketable sugar. With a high quotient of purity and low glucose, a ratio common in the juice of the best varieties of West Indian sugar-cane, it is possible on a well worked muscovado estate with a steam pan and filter press to recover 80 per cent. of the weight of saccharose as marketable muscovado sugar, and in certain of the tables the muscovado yield is calculated on this basis. The recovery is less if the purity is lower and the glucose ratio higher, as is the case in immature canes, or in mature canes of some varieties or in canes over-matured.

PART I.

COMPOSITION OF BARBADOS RAINFALL.

The rainfall at Dodds was measured in the usual manner and fortnightly samples were analysed at the Government Laboratory. The amount, distribution and composition of the rainfall from December 1920 to May 1922 are given below. The total amount analysed was 48·42 inches and supplied approximately 134 pounds of chlorine and 8·013 pounds of nitrogen per acre.

RAINFALL.

Amount, Distribution, and Composition of the Rainfall at Dodds Botanic Station.

		Fall.		Parts per million of			
		Days.	Inches.	Chlorine.	Nitrogen as Ammonia.	Nitrogen as Nitrate.	Nitrogen Total.
December	1920 ...	8	1·10	15·0	·048	·610	·658
January	1921 ...	11	0·71	23·0	·259	1·306	1·565
February	„ ...	13	1·29	15·0	·139	·931	1·070
March	„ ...	19	2·86	17·0	·083	·262	·345
April	„ ...	11	1·11	23·0	·088	1·502	1·590
May	„ ...	12	1·30	16·0	·131	·729	·860
June	„ ...	14	3·49	22·0	·083	·559	·642
July	„ ...	16	5·03	10·0	·114	·216	·330
August	„ ...	18	4·01	8·0	·082	·560	·642
September	„ ...	16	5·49	6·0	·065	·676	·741
October	„ ...	20	6·25	5·0	·084	·872	·956
November	„ ...	20	2·62	10·0	·026	·864	·890
December	„ ...	18	3·33	10·0	·061	·418	·479
January	1922 ...	15	1·59	15·0	·069	·491	·560
February	„ ...	22	3·51	19·0	·077	·829	·906
March	„ ...	13	3.24	13·0	·069	·573	·642
April	„ ...	9	·92	20·0	·085	·771	·856
May	„ ...	7	·57	23·0	·174	1·556	1·730
		262	48·42				

TABLE I. RAINFALL AT MANURIAL AND VARIETY EXPERIMENT STATIONS FROM DECEMBER 1920 TO MAY, 1922.

Estates.	Height above sea level.	December, 1920.		January, 1921.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		January, 1922.		February.		March.		April.		May.		Total.	
		Days.	Inches.	Days.	Inches	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
Dodds ...	210	8	1·10	11	0·71	13	1·29	19	2·86	11	1·11	12	1·30	14	3·49	16	5·03	18	4·01	16	5·49	20	6·25	20	2·62	18	3·33	15	1·59	22	3·51	13	3·24	9	0·92	7	0·57	262	48·42
Hampton ...	103	5	1·12	6	0·82	9	1 30	12	1·99	5	0·79	10	1·41	14	2·92	15	4·75	14	3·59	12	4·16	18	6·79	9	3·48	11	3·26	11	1·89	18	3·31	7	2·83	5	0·58	3	0·83	184	45 82
Sunbury ...	168	6	1·05	7	0·35	11	1·42	13	2·27	7	1·03	10	1·41	15	3·47	15	4·97	17	2·97	14	5·47	15	5·79	13	2·90	14	3·59	13	2·04	18	4·20	8	2·42	7	0·97	4	0·68	207	47·00
Carrington ...	110	6	1·40	8	0·94	12	1·65	17	3·38	7	1·09	9	1·85	15	3·27	16	5·78	16	3·55	15	4·89	19	6·16	14	3·85	15	3·31	15	2·19	20	3·79	10	3·19	6	0·64	8	0·98	228	51·91
Brighton ...	271	5	1·81	5	0·30	5	0·95	12	2·99	4	1·01	6	2·46	13	3·27	11	5·91	11	3·77	11	5·53	15	7·46	12	3·66	11	3·75	10	2·21	19	5·07	6	3·76	5	0·57	5	0·73	166	55·81
Hannays ...	183	5	1·47	9	1·20	11	1·42	16	2·66	6	0·81	9	1·80	13	2·43	12	4·69	13	3·43	13	4·85	17	7·00	13	4·80	12	3·06	11	2·30	15	3·88	8	4·11	5	0·68	6	0·56	194	51·15
Coverley ...	254	4	1·83	7	0·69	10	1·69	12	2·10	5	0·84	5	2·18	13	3·20	10	5·06	13	5·14	12	3·76	14	6·34	10	5·58	10	3·40	12	2·04	14	3·75	12	2·67	7	0·93	3	0·18	173	51·38
Waterford ...	186	5	0·94	9	0·83	9	0·77	17	2·00	3	0·44	5	0·41	11	1·47	14	3·62	13	2·75	13	4·94	20	6·08	14	4·09	12	2·46	12	1·77	20	3·01	8	2·57	5	0·63	3	0·47	193	39·25
Pickerings ...	71	6	1·16	9	0·82	6	0·95	13	2 41	3	0·31	7	1·07	8	1·81	14	4·86	15	3·11	13	2·98	19	5·68	16	3·56	15	3·18	11	1·69	16	2·52	7	1·58	6	1·41	7	0·62	193	39·75
Clifton Hall ...	702	4	1·97	8	1·35	9	1·85	12	2·88	6	1·25	3	0·75	10	2·94	7	4·77	8	2·52	7	4·54	13	6·66	4	4·39	7	3·71	11	2·40	15	5·29	7	3·42	11	1·95	9	0·72	151	53·36
Walkers ...	55	5	1·46	4	0·68	6	0·54	10	1·62	5	0·80	7	2·21	4	1·48	16	6·25	12	4·35	16	4·28	18	6·80	15	4·08	19	3·20	13	1·41	15	2·66	7	2·22	10	1·35	2	0·15	184	45·64
Henley ...	553	6	2·44	12	1·04	14	1·75	16	3·91	9	1·76	16	2·04	16	3·48	19	6·30	19	5·22	16	4·42	21	6·67	19	4·14	18	4·34	16	2·26	22	6·51	11	4·31	9	1·84	13	0·95	272	63·38
Clifton ...	756	5	2·00	10	1·68	13	2·40	15	4·80	4	1·45	6	2·25	14	4·31	20	7·68	15	5·74	13	3·78	21	7·44	16	5·63	20	6·01	12	3·42	19	5·87	12	3·47	11	2·76	3	0·72	229	71·41
Lemon Arbor ...	720	7	2·85	7	2·01	13	2·15	15	4·75	5	0·82	9	2·12	10	3·13	14	5·25	15	5·66	13	4·01	19	8·19	16	4·32	21	4·58	11	2·76	20	7·18	9	4·67	9	2·13	7	1·48	220	68·06
Vaucluse ...	731	3	1·99	10	2·26	11	2·03	13	3·45	6	1·25	7	1·42	14	4·20	15	6·07	14	5·91	13	5·21	16	6·88	17	5·64	13	3·80	10	2·38	22	5·86	9	4·04	7	1·92	4	0·52	204	64·83

PART II.

MANURIAL AND OTHER EXPERIMENTS WITH THE SUGAR-CANE.

The manurial experiments were carried out in Lower Bay Tree field at Dodds which is situated in the parish of St. Philip, ten miles from Bridgetown at an elevation of 210 feet above sea-level. They consist of twenty-six plots of one twentieth of an acre each. The rows of canes are six feet apart and the clumps of canes six feet apart in the rows. Each plot, therefore, consists of sixty clumps of canes and the experiments cover an area of approximately 1½ acres.

The chemical analysis of the soil, which is what is called in Barbados a "Black Soil", has been given repeatedly in previous reports so that it is omitted this year. It may, however, be stated that this soil when first analysed many years ago contained a comparatively moderate proportion of calcium carbonate and was poor in nitrogen, phosphoric acid and potash, in which respect it is distinctly below the average of Barbados soils.

Soon after the canes were cut in 1920, the old stools were dug out, the cane holes dug two feet square, and where possible, one foot deep and all larvae, pupae and imagoes of the root borer (*Diaprepes abbreviatus*, Linn) and the brown hardback (*Phytalus smithi*, Arrow) found, were killed. The plots were then planted with wolly pyrol, which was pulled up on September 28 and 29 and placed in the cane holes. On the woolly pyrol, after it had withered, farmyard manure was applied at the rate of twenty tons per acre and the whole covered with the soil obtained from a cane hole dug on the north side of the manure. At the same time an additional twenty tons of farmyard manure were applied per acre to Plot B. 1, making a total of forty tons to that plot. The whole field was then subsoiled in each bank in a northerly and southerly direction, and planted on November 30, 1920 with top cuttings of the B. H. 10 (12), after they had been soaked in Bordeaux mixture for ten minutes.

WEATHER.

As the rainfall for November and December 1920 and January 1921 was below the average, the sugar canes on the experiment plots on the whole did not germinate as satisfactorily as usual, and as the rainfall for 1921 was much below the average for the first six months of the year they suffered somewhat from the drought that prevailed. The rainfall, however, for the latter half of the year being greater than it was during the first half, the sugar canes improved considerably. Owing to the collection of the root borer and brown hard-back, which has been regularly continued now for some time, the attacks of these two pests were not by any means as noticeable as they were in the past.

ANALYSIS OF MANURE.

The following is the analysis of a sample of the farmyard manure applied to Lower Bay Tree field in October, 1920, while that field was in the course of preparation.

Moisture	41·11
*Organic matter, etc.	27·64
Insoluble siliceous matter	19·88
†Phosphoric anhydride	0·27
‡Alkaline salts, Lime, Magnesia, etc. ...	11·10
	100·00
*Containing nitrogen	0·81
Equal to ammonia	0·99
†Equal to tricalcium phosphates ...	0·59
‡Containing potash	0·20
Equal to sulphate of potash	0·38

Twenty tons of this manure supplied per acre 363 lb of nitrogen, 121 lb. of phosphoric anhydride (equal to 264 lb. tricalcium phosphate) and 90 lb. potash.

APPLICATION OF MANURES.

The experiments were directed as in former years with a view of ascertaining the effect of the application of farmyard manure in ordinary quantity, and in double the ordinary quantity; also of nitrogen, of phosphates, and of potash, upon the industrial yields of the sugar cane.

The chemical fertilizers were applied as follows:—

Phosphates and potash on February 1 and nitrogen on February 16, 1921. The second application of phosphates, potash and nitrogen was made on June 15, 1921.

The following table gives the composition per cent. of the chemical manures employed on the manurial experiments, 1920-1922 : —

	Nitrogen	Phosphates.			Potash.
		Soluble	Reverted.	Insoluble.	
Sulphate of ammonia ...	20·22	...	...	...	...
Nitrate of soda	15·90	...	...	...	...
Dried blood	12·98	...	...	...	...
Superphosphate of lime ...	...	29·95	10·52	..	...
Basic Slag	...	...	...	37·56	...
Sulphate of potash ...	...	...	...	...	51·96

Wherever in this report quantities of canes or sugar or of manure applied are mentioned, per acre is understood unless stated to the contrary.

The experiments may be divided as follows :—

Farmyard manure only, 20 tons.
Farmyard manure, 20 tons extra.

Nitrogen series.
- Minerals only.
- Minerals and nitrogen as sulphate of ammonia.
- Minerals and nitrogen as nitrate of soda.
- Minerals and nitrogen as dried blood.

Phosphate series.
- Nitrogen and potash only.
- Nitrogen, potash and superphosphates.
- Nitrogen, potash and basic slag.

Potash series.
- Nitrogen and phosphate only.
- Nitrogen, phosphate and potash.

Owing to the low fertility of Lower Bay Tree field which obtained in 1885 when the manurial experiments were first started, the whole of the plots have received annually farmyard manure at the rate of twenty tons (approximately 800 cubic feet) per acre every other year for the past thirty-one years. In addition one plot received an extra twenty tons of farmyard manure, equal to forty tons per acre every other year. In the nitrogen series, in addition to the twenty tons of farmyard manure each plot received eighty pounds of assimilable phosphate as superphosphate of lime and sixty pounds of potash as sulphate of potash. One plot received nothing further, and the remaining plots varying quantities of nitrogen as sulphate of ammonia, nitrate of soda and dried blood. In the phosphate series, in addition to the twenty tons of farmyard manure, each plot received sixty pounds of nitrogen as sulphate of ammonia and sixty pounds of potash as sulphate of potash. One plot received nothing further. Four plots received varying quantities of phosphate as superphosphate of lime, and two plots received basic slag, one at the rate of eighty pounds and the other at the rate of 100 pounds of phosphate per acre. In the potash series, in addition to the twenty tons of farmyard manure, each plot received eighty pounds of assimilable phosphates as superphosphate of lime and sixty pounds of nitrogen as sulphate of ammonia. One plot receiving nothing further. The remaining plots received varying quantities of potash as sulphate of potash.

The results are given in Tables II to V. As will be seen therefrom, they are again this year, from a number of the plots, so different from those of the previous year, before the advent of the root borer (*Diaprepes abbreviatus*, Linn) and the brown hardback (*Ppytalus smithi*, Arrow) which are still doing much injury to the sugar cane, although the numbers have greatly decreased since they have been regularly collected, that it is impossible in many instances to draw conclusions from them. To give a few instances in this connection, it may be mentioned that in the nitrogen series Plot A. 3, which received 80 lb. of phosphate as superphosphate of line, 60 lb. potash as sulphate of potash in February and 40 lb. of nitrogen as sulphate of ammonia in June, gave 428 lb. saccharose per acre less than the no-manure plot and 506 lb. less than Plot A. 2 which received similar amounts of phosphates and potash, but no nitrogen. It will also be seen that Plot B. 7, to which 80 lb. of superphosphates and 40 lb. of nitrogen as dried blood, of which 15 lb. was applied on February 1, gave 2,332 lb. of saccharose per acre more than Plot B. 2 to which the same quantities of nitrogen, phosphate and potash have been applied. The only difference being that in the case of Plot B. 2 the 40 lb. of nitrogen as dried blood was applied on February 1.

In the phosphate series, each plot received 60 lb. of potash as sulphate of potash in February and 60 lb. of nitrogen as sulphate of ammonia, 15 lb. in February and 45 lb. in June. Plot A. 5 received in addition 80 lb. of phosphate in February. Plot A. 8 which received 80 lb. of phosphates, 40 lb. in February and 40 lb. in June, yielded 1,840 lb. of saccharose per acre more than Plot A. 5, which received all its phosphate in February.

In the case of the potash series, the plot which received 60 lb. of potash as sulphate of potash in addition to 60 lb. of nitrogen as sulphate of ammonia, 15 lb. in February and 45 lb. in June, and 80 lb. of superphosphate of lime in February, gave 428 lb. of saccharose per acre less than the no-manure plot. Plot A. 10 which received similar quantities of nitrogen and phosphate as Plot A. 5, but in addition only 40 lb. of potash as sulphate of potash in February, gave 1,643 lb. of saccharose per acre more than the no-manure plot.

Before the plots to which the different manures were applied were reaped, certain of the canes were seen to be withering, amounting altogether to 29 clumps. These were cut and weighed separately and are not included in the weights given in Tables II to V. From around and in the basal portions of these 29 clumps, 60 larvae of the root borer and 21 larvae of the brown hard-back were obtained. As soon as the remainder of the plots were reaped in the usual manner, the basal portions of each clump were also dug up, cut into pieces and the larvae, where present in or around such basal portions, killed. At the same time, the old cane holes were dug out two feet square and, where possible, one foot deep and all of the larvae found, killed. The numbers of the root borer and the brown hard-back larvae so found are given in Table VI.

The numbers of larvae of the root borer and the brown hard-back found in each plot for the year under review, and also for the years 1918-1920 are also given in Table VI. As will be seen from that table, the larvae, pupae and imagoes are now becoming less as a result of their being collected, the number in 1922 being practically only one-quarter of what they were in 1916-18 and less than one-fifth of what they were in 1918-20.

TABLE II.

PLANT CANES.

DODDS— LOWER BAY TREE FIELD.

Nitrogen Series.

{*Farmyard manure*, 20 tons.
Nitrogen.
Phosphate as superphosphate, 80 lb. in February,
Potash as sulphate, 60 lb. in February.

Number of Plots.		Applied in 1921.		No. of Canes per acre.	Weight in tons per acre.			Per cent by number of rotten canes.	Per cent. of juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Difference by manuring in			*Diapreppes abbreviatus* per acre.	*Phytalus smithi* per acre.	*Diapreppes abbreviatus* and *Phytalus smithi* per acre.
		February.	June.		Produce.	Cane Tops.	Canes.			Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Lb. per gallon of Solids not Sugar.	Quotient of purity.	Glucose ratio.			Produce, tons per acre.	Canes, tons per acre.	Saccharose, lb. per acre			
		lb.	lb.																				
A 1	No chemical manure ...	...	...	20,535	35·18	4·78	30·40	·50	54·50	1·0888	2·23	·069	·121	92·15	3·09	3,409	7,602	...	...	...	553	311	864
B 1	Farmyard manure 20 tons extra	...	...	17,426	29·99	4·76	25·23	1·03	56·00	1·0879	2·17	·061	·159	90·80	2·81	2,910	6,315	— 5·19	— 5·17	— 1,287	360	51	411
A 2	No nitrogen	...	...	15,112	33·25	4·57	28·68	·41	56·00	1·0915	2·33	·125	·035	93·58	5·36	3,296	7,680	— 1·93	— 1·72	+ 78	496	62	558
A 3	40 lb. nitrogen as sulphate of ammonia ..	...	40	19,965	34·20	5·00	29·20	·61	54·00	1·0879	2·21	·071	·109	92·47	3·21	3,246	7,174	— ·98	— 1·20	— 428	363	60	423
A 4	60 lb. „ „	...	60	20,027	39·69	7·75	31·94	none.	55·50	1·0897	2·20	·076	·164	90·16	3·45	3,644	8,017	+ 4·51	+ 1·54	+ 415	828	318	1,146
A 6	80 lb. „ „	...	80	18,351	37·15	6·92	30·23	·73	53·00	1·0879	2·17	·086	·134	90·80	3·96	3,299	7,159	+ 1·97	— ·17	— 443	672	269	941
B 3	40 lb. „ „	15	25	18,634	33·96	5·02	28·94	none.	62·50	1·0897	2·27	·063	·107	93·03	2·78	3,718	8,440	— 1·22	— 1·46	+ 838	817	575	1,392
A 5	60 lb. „ „	15	45	18,489	32·84	4·97	27·87	·61	54·00	1·0906	2·27	·081	·119	91·90	3·57	3,091	7,017	— 2·31	— 2·53	— 585	983	605	1,588
B 4	60 lb. nitrate of soda ..		60	18,222	32·69	5·64	27·05	1·17	57·00	1·0870	2·18	·076	·114	91·98	3·49	3,176	6,924	— 2·49	— 3·35	— 678	356	142	498
B 7	40 lb. dried blood ...	15	25	19,985	39·96	6·68	33·28	·55	59·50	1·0870	2·21	·063	·097	93·25	2·85	4,081	9,019	+ 4·78	+ 2·88	+ 1,417	1,027	330	1,357
B 5	60 lb. „ „	15	45	19,878	30·33	4·75	25·58	·35	55·00	1·0870	2·20	·063	·107	92·83	2·86	2,900	6,380	- 4·85	- 4·82	— 1,222	726	277	1,003
B 2	40 lb. „ „	40	...	18,742	31·60	6·04	25·56	1·49	57·50	1·0879	2·21	·068	·112	92·47	3·08	3,026	6,687	— 3·58	— 4·84	— 915	528	465	993
B 6	60 lb. „ „	60	...	18,453	35·46	5·32	30·14	·16	56·50	1·0870	2·20	·050	·120	92·83	2·27	3,509	7,720	+ ·28	— ·26	+ 118	877	393	1,270

TABLE III.

PLANT CANES.

DODDS— LOWER BAY TREE FIELD

Phosphate Series.

Farmyard manure, 20 tons.
Phosphate.
Nitrogen as sulphate of ammonia 15 lb. in February
45 lb. in June,
Potash as sulphate, 60 lb. in February.

Number of plots.		Applied in 1921.		No. of canes per acre.	Weights in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Sp. Gr. $\frac{30^{\circ}\ C.}{16{\cdot}6^{\circ}\ C.}$	Normal Juice. Lb. per gallon of			Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose lb. per acre.	Difference by manuring in			*Diaprepes abbreviatus* per acre.	*Phytalus smithi* per acre.	*Diaprepes abbreviatus* and *Phytalus smithi* per acre.
		February.	June.		Produce.	Cane tops.	Canes.				Saccharose.	Glucose.	Solids not sugar.					Produce, tons per acre.	Canes, tons per acre.	Saccharose, lb. per acre.			
		lb.	lb.																				
A 1	No chemical manure ...	...	...	20,535	35·18	4·78	30·40	·50	54·50	1·0888	2·23	·069	·121	92·15	3·09	3,409	7,602	...	...	...	553	311	864
B 1	Farmyard manure 20 tons extra	...	...	17,426	29·99	4·76	25·23	1·03	5·300	1·0879	2·17	·061	·159	90·80	2·81	2,910	6,315	− 5·19	− 5·17	− 1,287	360	51	411
A 7	No phosphate	...	...	20,052	40·64	7·74	32·90	·86	5·350	1·0888	2·24	·083	·097	92·56	3·71	3,621	8,111	+ 5·46	+ 2·50	+ 509	1,959	115	2,074
B 8	40 lb. phosphate as superphosphate ...	40	...	19,472	38·01	6·09	31·92	1·17	60·00	1·0879	2·24	·063	·087	93·72	2·81	3,943	8,832	+ 2·83	+ 1·52	+ 1,230	454	492	946
A 5	80 lb. „ „	80	...	18,489	32·84	4·97	27·87	·61	54·00	1·0906	2·27	·081	·119	91·90	3·57	3,091	7,017	− 2·34	− 2·53	− 585	983	605	1,588
B 9	120 lb. „ „	120	...	18,399	38·35	5·72	32·63	·91	56·50	1·0870	2·21	·051	·109	93·25	2·31	3,799	8,396	+ 3·17	+ 2·23	+ 794	459	375	834
A 8	80 lb. „ „	80	40	22,364	42·74	5·54	37·20	·87	53·00	1·0870	2·18	081	·109	91·98	3·72	4,063	8,857	+ 7·56	+ 6·80	+ 1,255	1,912	468	2,380
A 9	120 lb. „ „	60	60	19,828	39·36	6·68	32·68	none.	58·50	1·0861	2·15	·083	·117	91·49	3·86	3,943	7,477	+ 4·18	+ 2·28	− 125	931	434	1,365
A 13 Lower Half.	80 lb. basic slag	80	...	18,755	37·60	6·46	31·14	·32	58·00	1·0906	2·28	·068	·122	92·31	2·98	3,710	8,459	+ 2·42	+ ·74	+ 857	666	303	969
A 13 Upper Half.	100 lb. „ „	100	...	24,253	33·35	4·44	28·91	·43	57 00	1·0861	2·14	·051	·159	91·06	2·38	3,400	7,276	− 1·83	− 1·49	− 326	421	158	579

Table IV.

Dodds:— Lower Bay Tree Field.

Plant Canes.

Potash Series.

Farmyard manure 20 tons.
Potash
Nitrogen as sulphate of ammonia, 15 lb. in February
45 lb. in June.
Phosphate as superphosphate, 80 lb in February.

Number of Plot.		Applied in 1921. February.	Applied in 1921. June.	No. of canes per acre.	Weight in tons per acre. Produce.	Weight in tons per acre. Cane tops.	Weight in tons per acre. Canes.	Per cent. by number of rotten canes.	Per cent of juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Normal Juice. Lb. per gallon of Saccharose.	Normal Juice. Lb. per gallon of Glucose.	Normal Juice. Lb. per gallon of Solids not sugar.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Gallons of juice per acre.	Saccharose, lb per acre.	Difference by manuring in Produce, tons per acre.	Difference by manuring in Canes, tons per acre.	Difference by manuring in Saccharose, lb. per acre.	*Diaprepes abbreviatus* per acre.	*Phytalus smithi* per acre.	*Diaprepes abbreviatus* and *Phytalus smithi* per acre.
		lb.	lb.																				
A 1	No chemical manure ...	...	...	20,535	35·18	4·78	30 40	·50	54·50	1·0888	2 23	·069	·121	92·15	3 09	3,409	7,602	...	..	...	553	311	864
B 1	Farmyard manure 20 tons extra ...	...	...	17,126	29·99	4·76	25·23	1·03	56·00	1·0879	2·17	·061	·159	90·80	2·81	2,910	6,315	- 5·19	- 5·17	- 1,287	360	51	411
B 10	No potash	...	...	20,983	37·24	5·22	32·02	·46	58·50	1·0870	2·22	·059	·100	93·67	2·25	3,861	8,571	+ 2·06	+ 1·62	+ 969	1,019	923	1,942
A 10	40 lb. potash as sulphate	40	...	21,814	38·70	5·76	32·94	none.	60·00	1·0870	2·27	·049	051	95·78	2·16	4,073	9,245	+ 3·52	+ 2·54	+ 1,643	993	279	1,272
A 5	60 lb. „ „ „ ...	60	...	19,965	34·20	5·00	29·20	·61	54·00	1·0879	2·21	·071	·109	92·47	3·21	3,246	7,174	- ·98	- 1·20	- 428	983	605	1,588
A 11	80 lb. „ „ „ ...	80	...	15,949	34·76	4·59	30·17	·39	60·00	1·0879	2·21	·083	·097	92·47	3·76	3,727	8,237	- ·42	- ·23	+ 635	1,800	279	2,079
A 12	100 lb. „ „ „ ...	100	...	18,515	33·30	4·49	28·81	none.	60 00	1·0897	2·27	·063	·107	93·03	2·78	3,554	8,068	- 1·88	- 1·59	+ 466	571	434	1,005
B 12	60 lb. „ „ „ ...	30	30	19,023	33·73	4·19	29·54	·53	56·00	1·0879	2·23	·050	·110	93·30	2·24	3,407	7,598	- 1·45	- ·86	- 4	1,210	471	1,681
B 11	80 lb. „ „ „ ...	40	40	15,949	34·76	4·59	30·17	·39	60·00	1·0879	2·21	·083	·097	92·47	3·76	3,727	8,237	- ·42	- ·23	+ 635	169	183	352

TABLE V. SUMMARY OF RESULTS OBTAINED IN LOWER BAY TREE FIELD AT DODDS FOR THE SEASON ENDED 1922.

MANURES. Name.	When applied.	Quantity applied.	Muscovado sugar per acre.	Increase or decrease on no-manure.	Molasses from increase or decrease of muscovado sugar.	Loss or gain.	Value of manure applied.	Cost of manufacture of incremental sugar or amount deducted where there was a loss as compared with the control plot.	Gain or loss by manuring.	*Diapreps abbreviatus* per acre.	*Phytalus smithi* per acre.	Total *Diapreps abbreviatus* and *Phytalus smithi* per acre.
		Tons.	lb.	lb.	Gallons.	$ c.	$ c.	$ c.	$ c.			
Farmyard manure (control plot) ...	..	20	6,082	...	...	...	..	...	...	553	311	864
,, ,, (20 tons extra) ...	...	40	5,052	—1030	— 46	+ 31·52	18·15	4·84	— 44·83	360	51	411
NITROGEN SERIES.												
		lb.										
Farmyard manure, minerals and No-nitrogen	...	...	6,144	+ 62	+ 3	+ 1·93	8·94	·29	— 7·30	496	62	558
40 lb. nitrogen as sulphate of ammonia ...	June ...	40	5,739	— 343	— 15	— 10·45	18·66	1·61	— 27 50	363	60	423
60 lb. ,, ,, ,, ...	,, ...	60	6,414	+ 332	+ 15	+ 10·18	23·52	1·56	— 14·90	828	318	1,146
80 lb. ,, ,, ,, ...	,,	80	5,727	— 355	— 16	— 10·88	23·38	1·67	— 37·59	672	269	941
40 lb. ,, ,, ,, ...	Feby. 15 / June 25	40	6,752	+ 670	+ 30	+ 20·51	18·66	3·15	— 1·30	817	575	1,392
60 lb. ,, ,, ,, ...	Feby. 15 / June 45	60	5,614	— 468	— 21	— 14·34	23·52	2·20	— 35·66	983	605	1,588
60 lb. ,, as nitrate of soda ...	June ..	60	5,539	— 543	— 24	— 16 58	23·52	2·55	— 37·55	356	142	498
40 lb. ,, as dried blood ..	Feby. 15 / June 25	40	7,215	+1,133	+ 51	+ 34·73	18·66	5·33	+ 10·74	1,027	330	1,357
60 lb. ,, ,, ,, ...	Feby. 15 / June 45	60	5,104	— 978	— 44	— 29·97	23·52	4·60	— 48 89	726	277	1,003
40 lb. ,, ,, ,, ...	February ...	40	5,350	— 732	— 33	— 22·44	18·66	3·44	— 37·66	528	465	993
60 lb. ,, ,, ,, ...	February ...	60	6,176	+ 94	+ 84	+ 2·85	23·52	·44	— 21·11	877	393	1,270

TABLE V.—*Concluded.* SUMMARY OF RESULTS OBTAINED IN LOWER BAY FREE FIELD AT DODDS FOR THE SEASON ENDED 1922.

MANURES.			Muscovada sugar per acre.	Increase or decrease on no-manure.	Molasses from increase or decrease of muscovado sugar.	Loss or gain.	Value of manure applied.	Cost of manufacture of incremental sugar or amount deducted where there was a loss as compared with the control plot.	Gain or loss by manuring.	*Diopreyes abbreviatus* per acre.	*Phytalus smithi* per acre.	Total *Diopreyes abbreviatus* and *Phytalus smithi* per acre.
Name.	When applied.	Quantity applied.										
		Tons.	lb.	lb.	Gallons.	$ c.	$ c.	$ c.	$ c.			
PHOSPHATE SERIES.												
Farmyard manure, potash, nitrogen and No-phosphate	...	..	6,489	+ 407	+ 18	+ 12·48	19·80	1·91	— 9 28	1,959	115	2,074
40 lb. phosphate as superphosphate ...	February ...	40	7,066	+ 984	+ 44	+ 30·12	21·66	4·62	+ 3·84	454	492	949
80 lb. „ „ ...	„ ...	80	5,614	— 468	— 21	— 14·34	23·52	2·20	— 35·66	983	605	1,588
120 lb. „ „ ...	„ ..	120	6,717	+ 635	+ 28	+ 19·38	25·38	2·98	— 8·98	459	375	834
80 lb. „ „ ...	Feby. 40 / June 40	80	7,086	+1,004	+ 45	+ 30·75	23·52	4·72	+ 2·51	1,912	468	2,380
20 lb. „ „ ...	Feby. 60 / June 60	120	5,982	- 100	— 4	— 2·99	25·38	·47	— 27·90	931	434	1,365
80 lb. „ as basic slag ...	February ...	80	6,767	+ 685	+ 31	+ 21·02	23 52	3·22	— 5 72	666	303	969
100 lb. „ „ ...	February ...	100	5,821	— 261	— 12	— 8·04	24 45	1·23	— 31·26	421	158	579
POTASH SERIES.												
Farmyard manure, nitrogen, phosphate and no potash	...	lb. ...	6,857	+ 775	+ 35	+ 23·77	18·30	3·64	+ 1·83	1,019	923	1,942
40 lb. potash as sulphate	February ...	40	7,396	+1,314	+ 59	+ 40·25	21·78	6·18	+ 12.29	993	279	1,272
60 lb. „ „ ...	„ ...	60	5,739	- 343	- 15	— 10·45	23·52	1·61	— 32·36	983	605	1,588
80 lb. „ „ ...	„ ...	80	6,590	+ 508	+ 23	+ 15·59	25 26	2·39	— 12·06	1,800	279	2,079
100 lb. „ „ ...	„ ...	100	6,454	+ 372	+ 17	+ 11·45	27·00	1·75	— 17·30	571	434	1,005
60 lb. „ „ ...	Feby. 30 / June 30	60	6,078	- 4	—	— 10	23·52	·2	— 23·60	1,210	471	1,681
80 lb. „ „ ...	Feby. 40 / June 40	80	6,590	+ 508	+ 23	+ 15·59	25·26	2·39	— 12·06	169	183	352

TABLE VI— SHOWING THE NUMBER OF THE LARVAE OF THE ROOT-BORER AND BROWN HARD-BACK FOUND IN EACH MANURIAL PLOT IN LOWER BAY TREE FIELD FOR THE THREE SEASONS 1916-1918, 1918-1920, AND 1920-1922.

Plots.	Root-borer and brown hard back.			Plots.	Root-borer and brown hard back.		
	1918	1920	1922		1918	1920	1922
A. 1 ...	475	420	55	B. 1 ...	199	496	16
A. 2 ...	265	239	25	B. 2 ...	130	219	53
A. 3 ...	316	309	21	B. 3 ...	212	463	68
A. 4 ...	276	229	54	B. 4 ...	219	351	31
A. 5 ...	240	346	69	B. 5 ...	210	232	46
A. 6 ...	305	313	49	B. 6 ...	159	275	55
A. 7 ...	232	313	104	B. 7 ...	150	290	55
A. 8 ...	228	287	94	B. 8 ...	151	200	45
A. 9 ...	190	235	64	B. 9 ...	164	253	44
A. 10 ...	245	260	57	B. 10 ...	180	249	88
A. 11 ...	258	302	105	B. 11 ...	196	301	77
A. 12 ...	322	331	51	B. 12 ...	308	339	74
A. 13 upper half	156	150	14				
A. 13 lower half	176	175	30				
	3,684	3,909	793		2,278	3,668	652

1916–1918	5,962
1918–1920	7,577
1920–1922	1,445

As it may be of interest, we include Table VII showing the number of the root borer and the brown hard-back, larvae and pupae, collected in Lower Bay Tree and Summervale fields, the fields in which the manurial plots are carried on, from January 1921 to May 1922. As will be seen therefrom 27,690 were collected from the two fields and as they contain nine acres the average is 3,077. As it may be of interest, and showing that collecting these pest regularly is having an appreciable effect, it may be mentioned that there were collected from the two fields from January 1920 to May 1921, 58, 848, i. e. 5,938 per acre. In other words the decrease amounted to 93 per cent.

TABLE VII— SHOWING THE NUMBER OF IMAGOES, LARVAE, ETC. OF THE PHYTALUS SMITHI ARROW AND DIAPREPES ABBREVIATUS, LINN, COLLECTED ON AND AROUND BAY TREE AND SUMMERVALE FIELDS AT DODDS, THE FIELDS IN WHICH THE MANURIAL PLOTS ARE SITUATED, FROM JANUARY 1921 TO MAY 1922.

Months.		Lower Bay Tree Field.					Summervale Field.				
		Phytalus Smithi.		*Diaprepes abbreviatns.*			*Phytalus Smithi.*		*Diaprepes abbreviatus.*		
		Imagoes.	Larvae.	Imagoes.	Larvae.	Egg batches.	Imagoes.	Larvae	Imagoes	Larvae	Egg batches.
January	1921	368	...	...	...	...		...	...	2,254	...
February	"	625	...	...	...	...	491	...	...	2,750	...
March	"	1,324	...	8	...	...	737	...	19	...	...
April	"	717	...	11	...	1	1,140	67	148	...	...
May	"	6	...	292	...	7	889	33	...	719	...
June	"	230	...	1,915	...	134	...	...	29	...	...
July	"	44	...	2,328	...	490	263	...	48	...	...
August	"	80	...	646	...	285	432	384	10	...	...
September	"	21	...	497	...	121	397	..	34	...	...
October	"	374	...	16	...	...	841	...	...	...	...
November	"	604	...	5	...	...	64	...	...	...	...
December	"	783	...	...	...	...	...	...	...	...	...
January	1922	1,101	...	...	...	...	...	...	...	...	...
February	"	663	...	...	...	...	...	...	...	...	...
March	"	890	414	...	816	...	...	...	65	...	3
April	"	396	...	...	...	...	...	...	57	2	8
May	"	351	...	4	...	...	238	...	50	...	...
		8,577	414	5,722	816	1038	5,492	484	460	5,725	11

The monetary loss sustained at present from the attacks of these pests, viz., *Diaprepes abbreviatus*, Linn and *Phytalus smithi*, Arrow, is still considerable. To give some idea of what the loss is, it may be mentioned that this year before the sugar canes on the manurial plots were fully matured 29 clumps had to be reaped as the tops had commenced to wither. On digging out the stools, 81 larvae of these two pests were found. The average weight of each cane in the withered clumps was 2.99 lb., and in spite of the fact that 1,364 larvae were found in the remaining plots, the average weight of each cane was 3·52 lb. In other words, although a large number of canes in the remaining plots had also been attacked by the two pests, still as a smaller percentage was attacked, they weighed on the average ·53 lb. per cane more than those in the 29 clumps cut first. The loss therefore, which is really much more, is apparently 3·35 tons of canes per acre. As the average price at which dark crystal sugar sold this year was $3·00 per 100 lb., the value of 3·35 tons of canes would be $14·07. From the diminution that has taken place in the number of larvae of the root borer and the brown hard back which have been dug out of the manurial plots at Dodds, it is evident, as stated above, from Table VI that the digging out of these pests and their collection are having a very considerable effect.

TABLE VIII.—THE NUMBER OF ROOT-BORER AND BROWN HARDBACK LARVAE DUG OUT OF THE MANURIAL EXPERIMENT PLOTS IN LOWER BAY TREE FIELD AND THE LOSS SUSTAINED PER ACRE FOR THE THREE SEASONS ENDED 1922.

Seasons.	No. of root-borer and brown hardback larvae.	Estimated tons canes lost each season.	Value per acre at current price of sugar
			$ c.
1916-18	5,962	4·42	33·72
1918-20	7,577	1·36	9 2 01
1920-22	1,445	3·36	14 07

It may be mentioned that 322,026 larvae and imagoes of the root borer and the brown hard-back were collected on the lands of the Government Industrial Schools from December 1st, 1920 to April 30th, 1922. As there were 71 acres of canes this would be 4,536 per acre. This would amount to a decrease of 31 per cent on the previous year when 421,574 larvae and imagoes of the root borer and the brown hard-back were collected.

It was mentioned in last year's report that the report of the Commission appointed by His Excellency the Governor to enquire into the damage done by the root borer (*Diaprepes abbreviatus*, Linn) to the sugar cane had been distributed to the planters in May 1921. Since then nothing further has been done in the matter

In October, 1920, Mr. R. C. McConnie, of Porto Rico, who was then in Barbados, was good enough to accompany the Director of Agriculture to a small plot of peasant's canes at Bank Hall where he had noticed some which he thought were attacked by the mosaic disease and, on examination, both he and the Director of Agriculture were of the opinion that it was the disease. As this was at the beginning of the planting season, the Director of Agriculture at once wrote a letter to a number of the local newspapers calling the attention of the planters to the matter, suggesting that all cuttings for planting purposes should be taken only from canes free from the disease and that where the planters were in any doubt as to whether the canes from which cuttings were to be made were attacked or not they should submit specimens to the Department of Agriculture for examination. The matter was also immediately reported to His Excellency the Governor and the Assistant Director of Agriculture deputed to examine and report on the canes in the neighbourhood of those found to be infected. This he did for some time and found infected canes only in the parish of St. Michael.

The Director of Agriculture next suggested to His Excellency the Governor the desirability of appointing a Commission to go carefully into the matter and to report what they thought best to be done for eradicating the disease. On January 20, 1921, the Commission was appointed and their report was submitted to His Excellency the Governor on March 2, 1921. Owing, however, to the difficulty of getting the report printed at once, some weeks elapsed before this was done. It was however laid before the Legislature on June 7, 1921 together with the draft of an Act submitted by the Commission. This Act with certain amendments was passed, and on November 24, 1921 five Commissioners were appointed to carry out the provisions of the Act and on January 11, 1922, an Inspector and a Secretary were appointed. Shortly after the appointment of the Inspector it was found that the disease had spread so rapidly about the Island that the Legislature was asked by the Governor-in-Executive Committee, at the request of the Commissioners, to provide for the payment of two assistant inspectors so that the percentage of infection of the disease might be ascertained before May 31, after which date, according to the Act, no canes could be destroyed. It is with much regret that we have to report from the result of the examination that the disease at present exists practically all over the island.

During the year under review, experiments were carried out at Summervale, Bulkeley and Bowmanston plantations in conjunction with Mr. R. S. Cunliffe, B. Sc., of the Chilean Nitrate Committee, for the purpose of ascertaining the value of Nitrapo as a fertilizer as compared with certain other chemical fertilizers separately and in combination. The results are given in Tables IX to XI and as will be seen therefrom, owing to the prolonged drought which prevailed during the first six months of the year, the time the canes were growing, the results are, we regret to report inconclusive.

TABLE IX.—NITRAPO AND OTHER MANURIAL EXPERIMENTS CONDUCTED WITH PLANT SUGAR CANES OF BA. 11569 ON LOWER CLIFDEN FIELD AT SUMMERVALE PLANTATION, ON BEHALF OF MR. R. S. CUNLIFFE, B. SC., OF THE CHILEAN NITRATE COMMITTEE, 1920—1922.

	Manure applied.		Nitrogen.	Phosphates.	Potash.		No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. $\frac{30^\circ C.}{16{\cdot}6^\circ C.}$	Normal Juice. lb. per gallon of Saccharose.	Normal Juice. lb. per gallon of Glucose.	Normal Juice. lb. per gallon of Solids not sugar.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.
Plot I.	Nitrapo 450 lb.	June	60		79·97	Series i	18,000	31·47	3·89	55·00	1·0853	2·17	·076	·074	93 53	3·50	3,573	7,753	Slight.
	Superphosphates 149 lb.	"		60		Series ii	19,349	39·06	4·83	52·00	1·0853	2·03	·068	·222	87·50	3·35	4,193	8,512	Moderate.
			60	60	79·97	Mean	18,675	35·27	4·36	53·50	1·0853	2·10	·072	·148	90·52	3·43	3,883	8,133	
Plot II.	Nitrapo 450 lb.	June	60		79·97	Series i	21,340	35·71	·82	58·50	1·0826	2·14	·089	·021	95·11	4·16	4,322	9,249	Slight.
						Series ii	19,008	35·72	2·42	58·00	1·0317	1·98	·078	·172	88·79	3·94	4,290	8,495	Moderate.
			60		79·97	Mean	20,174	35·72	1·62	58·25	1·0822	2·06	·084	·097	91 95	4·05	4,306	8,872	
Plot III.	Control					Series i	22,846	39·25	2·48	57·00	1·0826	2·16	·050	·040	96·00	2·31	4,628	9,996	Slight.
						Series ii	14,242	27·65	2·09	58·00	1·0826	1·97	·119	·161	87·56	6·04	3,317	6,534	Moderate.
						Mean	18,544	33·45	2·29	57·50	1·0826	2·07	·085	·101	91·78	4·18	3,973	8,265	
Plot IV.	Nitrate of Soda 386 lb.	June	60			Series i	24,830	39·66	4·64	55·50	1·0791	1·98	·081	·099	91·67	4·09	4,570	9,049	Slight.
						Series ii	19,576	38·44	2·59	58·00	1·0800	1·94	·061	·179	88·99	3·14	4,624	8,971	Slight.
			60			Mean	22,203	39·05	3·62	56·75	1·0796	1·96	·071	·139	90·33	3·62	4,597	9,010	
Plot V.	Nitrate of Soda 386 lb.	June	60			Series i	25,752	39·68	7·36	59·00	1·0817	1·90	·083	·247	85·20	4·37	4,847	9,209	Slight.
	Superphosphates 149 lb.	June		60		Series ii	19,442	31·94	4·94	58·00	1·0817	1·99	·119	·121	89·24	5·98	3,836	7,534	Slight.
			60	60		Mean	22,597	35·81	6·15	58·50	1·0817	1·95	·101	·184	87·22	5·18	4,342	8,422	

TABLE X :—NITRAPO AND OTHER MANURIAL EXPERIMENTS CONDUCTED WITH PLANT SUGAR CANES OF BA. 11569 (SERIES i) AND B. H. 10 (12) (SERIES ii) ON BAY HOUSE FIELD AT BULKELEY PLANTATION, ON BEHALF OF MR R. S. CUNLIFFE, B. SC., OF THE CHILEAN NITRATE COMMITTEE, 1920-1922.

	Manure applied		Nitrogen.	Phosphates.	Potash.		No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.
											Sp. Gr. 30°C./16·6° C.	Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.			
Plot I	Nitrapo 450 lb.	June	60	...	79·97	Series i	20,720	47·05	1·54	64·00	1·0800	1·94	·125	·115	88·99	6·44	6,246	12,117	Slight.
	Superphosphates 149 lb.	June		60		Series ii	16,500	31·21	None	57·50	1·0853	2·14	·063	·117	92·24	2·94	3,704	7,927	Slight.
			60	60	79·97	Mean	18,610	39·13	·77	60·75	1·0827	2·04	·094	·116	90.62	4·69	4,975	10,022	
Plot II	Nitrapo 450 lb.	June	60		79·97	Series i	19,643	42·83	·69	57·00	1·0826	2·03	·058	·162	90·22	2·86	5,051	10,254	Slight.
						Series ii	16,760	30·41	·36	59·00	1·0853	2·14	·078	·102	92·24	3·64	3,703	7,924	Slight.
			60		79·97	Mean	18,202	36·62	·53	58·00	1·0840	2 09	·068	·132	91·23	3·25	4,377	9,089	
Plot III	Control					Series i	18,320	39·88	1·31	59·00	1·0809	2 01	·114	·086	90·95	5·67	4,875	9,799	Slight.
						Series ii	17,020	29·69	None	61·00	1·0861	2·15	·050	·150	91·49	2·33	3,735	8,030	Slight.
						Mean	17,670	34·79	·66	60·00	1·0835	2 08	·082	·118	91·22	4·00	4,305	8,915	
Plot IV	Nitrate of soda 386 lb.	June	60			Series i	18,595	42·24	1·68	62·00	1·0826	2·04	·081	·129	90·67	3·97	5,419	11,054	Slight.
						Series ii	16,020	26·63	None	58·00	1·0853	2·11	·063	·147	90·95	2·99	3,188	6,727	Slight.
			60			Mean	17,308	34·44	·84	60·00	1·0840	2·08	·072	·138	90·81	3·48	4,304	889	
Plot V	Nitrate of soda 386 lb.	June	60			Series i	18,620	44 96	None	59·00	1·0844	2·09	·074	·136	90·87	3·54	5,479	11,451	Slight.
	Superphosphates 149 lb.	June	...	60		Series ii	18,840	32·25	None	61·00	1·0826	2·11	·061	·079	93·78	2·89	4,070	8,588	Slight.
			60	60		Mean	18,730	38·61		60·00	1·0835	2 10	·068	·108	92·33	3·22	4,775	10,020	

TABLE XI.—NITRAPO AND OTHER MANURIAL EXPERIMENTS CONDUCTED WITH PLANT SUGAR CANES OF B. H. 10 (12) ON MILL FIELD AT BOWMANSTON PLANTATION, ON BEHALF OF MR. R. S. CUNLIFFE, B. Sc., OF THE CHILEAN NITRATE COMMITTEE, 1920-22.

	Manure applied.	Nitrogen.	Phosphates.	Potash.		No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Normal Juice. lb. per gallon of Saccharose.	Normal Juice. lb. per gallon of Glucose.	Normal Juice. lb. per gallon of Solids not sugar.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Gallons juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.
Plot I	Nitrapo 225 lb. June	30	..	39·98	Series i	16,388	28·95	None	56·50	1·0835	2·06	·068	·152	90·35	3·30	3,381	6,965	Slight.
	Superphosphates 149 lb. June	...	60		...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Nitrapo 225 lb. September	30	...	39·98	Series ii	17,463	30·67	None	57·00	1·0835	2·05	·081	·149	89·91	3·95	3,614	7,409	Slight.
		60	60	79·96	Mean	16,926	29·81	...	56·75	1·0835	2·06	·075	·151	90·13	3·63	3,498	7,187	
Plot II	Nitrapo 225 lb. June	30		39·98	Series i	17,857	31·23	None	58·00	1·0809	1·99	·060	·160	90·05	3·02	3,754	7,470	Slight.
	Nitrapo 225 lb. September	30		39·98	Series ii	14,609	26·65	None	55·00	1·0835	2·05	·057	·173	89·91	2·78	3,031	6,214	Slight.
		60		79·96	Mean	16,233	28·94	...	56·50	1·0822	2·02	·059	·167	89·98	2·90	3,393	6,842	
Plot III	Control				Series i	18,136	30·59	None	57·00	1·0809	1·99	·061	·159	90·05	3·07	3,613	7,190	Slight.
					Series ii	15,890	31·13	None	52·00	1·0809	2·00	·049	·161	90·50	2·45	3,355	6,710	Slight.
					Mean	17,013	30·86	...	54·50	1·0809	2·00	·055	·160	90·28	2·76	3,484	6,950	
Plot IV	Nitrate of soda 193 lb. June	30			Series i	17,324	29·29	None	59·50	1·0782	1·93	·086	·124	90·19	4·46	3,621	6,989	Slight.
	Nitrate of soda 193 lb. September	30			Series ii	14,947	29·40	·38	56·50	1·0756	1·86	·083	·127	89·86	4·46	3,460	6,436	Slight.
		60			Mean	16,136	29·35	·19	58·00	1·0769	1·90	·085	·126	90·03	4·46	3,541	6,713	
Plot V	Nitrate of soda 193 lb. June	30	...		Series i	18,815	32·53	None	57·00	1·0835	2·04	·071	·169	89·48	3·48	3,834	7,821	Slight.
	Superphosphates 149 lb. June	...	60															
	Nitrate of soda 193 lb. September	30	...		Series ii	18,703	30·40	None	60·00	1·0773	1·91	·051	·149	90·52	2·67	3,793	7,245	Slight.
		60	60		Mean	18,759	31·47	...	58·50	1·0804	1·98	·061	·159	90·00	3·08	3,814	7,533	

This year an experiment was started for the purpose of ascertaining whether it was not possible to increase the yield of sugar-canes per acre by growing them from clumps containing on the average the maximum number per clump as compared with clumps containing on the average the minimum number per clump. The results are given in Table xii. As will be seen therefrom the canes grown from large clumps of B. H. 10 (12) gave 2,323 canes per acre which weighed 2·93 tons of canes per acre more than those selected from the small clumps.

TABLE XII. SUMMERVALE PLANTATION. MIDDLE SMITH FIELD.
PLANT CANES. 1920—1922.

	No. of canes per acre.	Canes, tons per acre.
Plot I. Canes Selected from large clumps of B.H. 10 (12)...	19,512	27·12
Plot II. Canes selected from small clumps of B.H. 10 (12)...	17,189	24·19

PART III.

EXPERIMENTS WITH SEEDLING AND OTHER CANES AT BARBADOS FOR THE SEASON 1920—1922.

The following is a summary of the principal results obtained in connection with seedling and other varieties of sugar-cane for the season 1920-1922 and contains the more important results that have been obtained during the season. In this branch of the work, the object which is steadily kept in view is to obtain such varieties as will be best suited to the soil and climatic conditions existing in the different districts of the island.

To this end, numbers of new canes are raised annually from seed, the number depending in a great measure on the climatic conditions existing during the flowering season of the sugar-cane, and to the fund available for the carrying on of the work. When the weather conditions are favourable, large numbers are easily grown; on the other hand when drought prevails at the time the sugar-canes are flowering, the seeds are by no means as fertile, and consequently, comparatively few germinate.

Seeds of certain of the sugar-canes which are selected for their yield and saccharose content, etc. are sown in boxes towards the end of November or in the beginning of December in each year. As soon as the plantlets are sufficiently grown, they are pricked out into pots and when they are about eight or ten inches high they are planted, usually in the month of April, in a field arranged for irrigation, so that they may be grown to maturity by May of the following year. In a year's time those varieties, which from their field characters are considered good enough for reproduction, are cut, weighed, crushed, and the juice analysed. Only the stools from those canes which give a sufficiently high weight and contain fairly rich and pure juice are replanted. The stools of the canes selected are taken up, divided in halves, planted where they can be irrigated, and carefully labelled. At the same time, a plan of the field is made showing the position of each stool.

During the following December, the canes from these stools are made into cuttings and planted. From then onward, each variety is annually propagated and multiplied in the usual manner, and grown in competition with the White Transparent, the standard cane, and B. H. 10 (12) which has of late years given such excellent results.

If the results of the new canes when grown under similar conditions to the White Transparent and B. H. 10 (12) justify it, they are cultivated on the various experiment plots in the black and red soil and the Scotland districts, until either they are ultimately rejected or cuttings are supplied to the planters with the recommendation to try them on a small scale, and if the results justify it, to gradually increase the areas under cultivation.

SEEDLINGS OBTAINED IN 1920 AND 1922.

In 1920, owing to the suitable weather conditions, about 15,000 seedling sugar-canes were grown. Of these 5,663 were potted out and 2,882 of the more vigorous were planted in Pear Tree field at Waterford in 1921. During the reaping season of 1922, 79 were reaped, the juice was analysed, and 40 of the best seedlings were retained. Owing to the drought during the early months of 1921 these seedlings had to be kept in pots longer than usual and when rain did fall an attempt was made to plant them in the field where they could be irrigated. The Water Department however refused to allow water to be used for that purpose and so the young seedlings, which were in the pots, had to remain there until sufficient rain fell in June when they were planted in the field. Those in the field, owing to the lack of rain, also suffered considerably, and as the drought still continued for some time they were all in a very parlous condition when the rain began to fall. When, however, the rain did fall they commenced to grow rapidly but towards the close of the year they were badly attacked by the root borer (*Diaprepes abbreviatus*, Linn) and the brown hard-back (*Phytalus smithi*, Arrow) insomuch that the Director of Agriculture invited His Excellency the Governor, the Honourable the Colonial Secretary and the following gentlemen of the Legislature etc., viz:—Hon. Sir F. J. Clarke, K.C.M.G., Hon Richard Haynes, M.L.C., Hon. G. Laurie Pile, M.L.C., Mr. E. L. Skeete, M.C.P., Mr. H. A. Bovell, M.C.P., Mr. G. D. L. Pile, M.C.P., and Mr. G. E. Sealy who are interested in agriculture, to visit the field and see for themselves the ravages of the pests, at that time some 50 per cent. of the canes being in a dying condition. After carefully examining the condition of the seedlings and considering what was best to be done in the matter, the Hon. G. Laurie Pile, M.L.C., who has for many years assisted the Department of Agriculture in every way that he could, offered to allow the first year seedling sugar-canes to be planted on one of his estates in the parish of St. John where there is a fairly good rainfall. Unfortunately, however, a suitable field could not be obtained, and the Governor-in-Executive Committee then decided to allow them to be planted on the lands of the Government Industrial Schools.

Owing to the drought which prevailed during the first half of 1921 the sugar-canes grown on the lands of the Government Industrial Schools were so immature when the usual period for flowering arrived that none of the better varieties produced seed. It was therefore necessary to obtain seeds from some of the planter friends of the Director of Agriculture who reside in the higher districts of the island, where, owing to a better rainfall the sugar-canes produced fertile seed. From these, about 15,000

seedlings were grown. Of the seedlings that germinated 5,193 were potted out. Of these 3,132 were planted in the land of the Government Industrial Schools on June 9, 1922.

Since 1898 a total of 109,307 sugar-canes have been raised from seed and potted out. Of these 2,882 were under cultivation during the season 1920-1922 and 531 variety, manurial and other plots were reaped and the juice from a number of the sugar-canes analysed.

The selected varieties were cultivated during the season at fifteen estates representative of the localities in which they were situated; nine being in the black soil districts, five in the red soil and one in the Scotland district. Of the above, five in the black soil districts and one in the red soil district are used as intermediary stations on which the different varieties are tested before they are finally sent to what are generally known as the selected seedling estates. These latter are the estates on which the standard varieties and the best seedlings are cultivated in duplicate plots.

The increase in value of any variety during the year under review when compared with the White Transparent, the standard cane, has been calculated at the rate of $2·39 per 100 lb. of muscovado sugar, the approximate average price at which this sugar sold from February to July, 1922.

In the tables giving the increase compared with the White Transparent during the past five years, its value has been calculated at $5·57 per 100 lb. the approximate average price at which muscovado sugar sold for the years 1918-22.

For the season under review, the comparative results of the plant canes in the black soil districts are given in Table xiii both in pounds of saccharose and pounds of muscovado sugar per acre. In calculating the results as mentioned above, 100 lb. of saccharose is taken as equal to 80 lb. of muscovado sugar with its molasses.

Before considering the comparative results obtained with the different varieties of the sugar-canes cultivated for the season 1920-1922, it may be as well to strongly emphasize the fact here that the results are by no means conclusive, owing, as in the case of manurial experiments to the attacks of the root borer (*Diaprepes abbreviatus*, Linn) and the brown hard-back (*Phytalus smithi*, Arrow). These pests attack some of the clumps of the sugar-cane in some plots in greater numbers than in others, therefore, the results are anything but comparable. It may be here mentioned that as the "dry season" sets in the larvæ of the root borer and the brown hard-back burrow down to the damp substrata of the soil. And as the "dry season" was exceptionally dry this year we are of the opinion that a number of the larvæ burrowed below the depth of a foot to which the old cane-holes were dug, so that as many were not found as would have been if the weather conditions had been normal. Larvæ of these pests have been found at a depth of three feet below the surface.

The average results of the better varieties of the seedling sugar-canes on the black and red soils for the season 1920-1922 are given in Tables xiii-xv. In Tables xvi and xvii the results on the black soil for the five seasons 1916-18, 1917-19, 1918-20, 1919-21, 1920-22 and on the red soil for the five seasons 1915-17, 1916-18, 1917-19, 1919-21 and 1920-22 are given where the yields and increases in value over the White Transparent may be seen.

Owing to the engine of the experiment mill being broken in 1920 it was impossible to crush all the canes that year and so the results from the red soils for the season 1918-20 are omitted.

TABLE XIII—RESULTS OF SEEDLING AND OTHER VARIETIES OF THE SUGAR CANE THAT HAVE BEEN UNDER CULTIVATION FOR SOME YEARS FOR THE SEASON 1920–1922.

Black Soils—Plant Canes.

Name or No. of cane.	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase in value per acre compared with White Transparent.
				$ c.
B. 183	1	7,665	6,132	68 88
B. 199	1	7,135	5,708	58 75
B. 263	1	7,007	5,606	56 31
Ba. 12079	2	6,607	5,286	48 66
Ba. 11569	13	6,385	5,108	44 41
B. 39	1	6,311	5,049	43 00
B. N. H. 16 (13)	1	6,188	4,950	40 63
B. S. F. 12 (48)	1	6,086	4,869	38 69
Ba. 8409	5	6,031	4,825	37 64
B. 164	1	5,887	4,710	34 89
Ba. 8069	4	5,779	4,623	32 81
B. H. 10 (12)	20	5,728	4,582	31 83
B. S. F. 13 (8)	1	5,726	4,581	31 81
B. 163	1	5,680	4,544	30 91
Ba. 11224	1	5,651	4,521	30 38
B. 381	1	5,591	4,473	29 23
Ba. 8192	1	5,584	4,467	29 09
B. 117	1	5,557	4,446	28 58
B. 18	1	5,500	4,400	27 49
B. S. F. 12 (53)	1	5,463	4,370	26 77
Ba. 6032	13	5,399	4,319	25 55
B. 368	1	5,390	4,312	25 38
B. 67	9	5,292	4,234	23 52
Ba. 8846	1	5,288	4,230	23 42
B. S. F. 12 (50)	4	5,228	4,182	22 27
B. S. F. 12 (27)	1	5,220	4,176	22 13
B. 376	1	5,114	4,091	20 10
B. 154	1	5,016	4,013	18 24
B. 369	1	4,983	3,986	17 59
B. 240	1	4,813	3,850	14 34
Ba. 11403	8	4,794	3,835	13 98
B. 60	1	4,754	3,803	13 22
B. 237	1	4,737	3,790	12 91
Ba. 7924	9	4,678	3,742	11 76
B. 85	3	4,619	3,695	10 64
B. 6450	11	4,594	3,675	10 16
S. C. $\frac{12}{4}$	1	4,582	3,666	9 94
B. N. H. $\frac{11\ (6)}{15\ (2)}$	1	4,567	3,654	9 66
Ba. 2471	4	4,501	3,601	8 39
B. 204	1	4,492	3,594	8 22
B. 119	1	4,448	3,558	7 36
B. 268	1	4,445	3,556	7 31
B. 312	1	4,357	3,486	5 64
B. N. H. $\frac{11\ (6)}{15\ (4)}$	1	4,351	3,481	5 52
W. No. 2	2	4,339	3,471	5 28
B. 177	1	4,315	3,452	4 83
B. 375	1	4,176	3,341	2 17
B. 275	1	4,154	3,323	1 74
B. 169	1	4,113	3,290	96
B. S. F. 12 (34)	1	4,097	3,278	67
B. 6808	5	4,091	3,273	55
W. Transparent	20	4,063	3,250	...

TABLE XIV.—RESULTS OF SELECTED VARIETIES FOR THE SEASON 1920—1922.

Red Soils—Plant Canes.

Name or No. of cane.	Number of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase in value per acre compared with White Transparent.
				$ c.
B. 67	6	7,241	5,793	44·12
Ba. 11569	6	7,148	5,718	42·33
B. H. 10 (12)	8	6,986	5 589	39·24
Ba. 12079	4	6,487	5,190	29·71
Ba. 6032	8	6,463	5,170	29·23
Ba. 7924	8	6,202	4,962	24·26
B. 6460	8	5,916	4,733	18·79
W. Transparent	8	4,934	3,947	...

TABLE XV.—RESULTS OF SELECTED VARIETIES OF PLANT CANES, 1ST RATOONS AND 2ND RATOONS REAPED DURING THE CROP SEASON OF 1922.

Red Soils.

Name or No. of cane.	Number of experiments.	Saccharose, lb. per acre.				Muscovado sugar, lb. per acre.	Increase in value per acre compared with White Transparent.
		Plants.	First Ratoons.	Second Ratoons.	Total for three crops.		
							$ c.
Ba. 12079 ...	9	6,487	7,029	7,444	20,960	16,768	91·04
B. H. 10 (12) ...	19	6,986	6,438	7,535	20,959	16,767	91·01
Ba 7924 ...	19	6,202	5,420	8,509	20,131	16,105	75·19
B. 6450 ...	19	5,916	5,350	7,543	18,809	15,047	40·90
Ba. 6032 ...	19	6,463	5,537	5,511	17,511	14.009	25·10
W. Transparent ...	19	4,934	4,759	6,506	16,199	12,959	...

TABLE XVI.—RESULTS OF SELECTED VARIETIES FOR THE FIVE YEARS 1918-1922.

Black Soils.—Plant Canes.

Name or No. of cane.	No. of years.	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase or decrease in value per acre compared with White Transparent.
					$ c.
B. 39	5	5	7,318	5,854	129·17
B. H. 10 (12)	5	73	7,066	5,653	117·97
B. 18	5	5	6,898	5,518	110·45
Ba. 11569	5	44	6,829	5,463	107·39
Ba. 8409	5	9	6,810	5,448	106·55
B. S. F. 12 (50)...	5	8	6,762	5,410	104·44
Ba. 11403	5	15	6,758	5,406	104·21
Ba. 12079	5	10	6,597	5,278	97·09
Ba. 8069	5	11	6,572	5,258	95·97
Ba. 6032	5	64	6,233	4,986	80·82
B. S. F. 13 (48)...	5	5	6,214	4,971	79·99
Ba. 8846	5	9	6,191	4,953	78·98
B. S. F. 12 (34)	5	14	6,018	4,814	71·24
B. S. F. 12 (27)	5	29	5,910	4,728	66·45
Ba. 14761	5	5	5,851	4,681	63·83
Ba. 2471	5	32	5,645	4,516	54·64
Ba. 7924	5	52	5,589	4,471	52·14
B. 3450	5	77	5,568	4,454	51· 9
Ba. 11224	5	7	5,404	4,323	43·89
B. S. F. 12 (53)...	5	19	5,391	4,313	43·33
B. S. F. 12 (24)	5	27	5,302	4,242	39·38
B. S. F. 12 (45)...	5	5	5,288	4,230	38·71
B. 6308	5	28	5,126	4,101	31·53
B. 376	5	5	4,885	3,908	20·78
W. Transparent	5	86	4 419	3,535	...
B. 7169	5	14	4,325	3,460	– 4·18
Bourbon	5	5	2,490	1,992	– 85·95

TABLE XVII.—SELECTED VARIETIES FOR THE FIVE SEASONS 1915-1917, 1916-1918, 1917-1919, 1919-1921 AND 1920-1922.

Red Soils.—Plant Canes.

Name or No. of cane.	No. of years.	No. of experiments.	Saccharose, lb. per acre.	Muscovado sugar, lb. per acre.	Increase in value per acre compared with White Transparent.
					$ c.
B. H. 10 (12)	5	43	9,751	7,801	210·27
Ba. 11569	5	23	8,335	6,668	146·16
Ba. 12079	5	13	8,137	6,510	138·36
Ba. 6032	5	41	8,056	6,445	134·74
Ba. 7924	5	43	7,788	6,230	122·76
B. 6450	5	43	7,160	5,728	94·80
Ba. 2471	5	16	6,090	4,872	47·12
B. 3922	5	22	5,701	4,561	29·80
W. Transparent	5	42	5,033	4,026	...

As a considerable number of the planters are now growing several of the newer seedling sugar-canes such as B.H. 10 (12), Ba. 6032, Ba. 7924, Ba. 11569, Ba. 12079, etc., it may not be without interest if the results obtained from some of these sugar-canes over a number of years are compared with the White Transparent and B. 6450, the two canes used at the present time as standards. Each of these new varieties was grown on the same estate, in the same field and under the same conditions as the White Transparent and B. 6450. The results are given in Table xviii. As will be seen therefrom, under the conditions mentioned above, B.H. 10 (12) gave an increased yield over the White Transparent of 59·9 per cent. and over the B. 6450 of 26·8 per cent. Ba. 6032 gave an increased yield of 48·8 per cent. over the White Transparent and 13·4 per cent. over the B. 6450. Ba. 7924, 34·5 per cent. over the White Transparent and 7·9 per cent. over the B. 6450. Ba. 11569, an increase of 57·3 per cent. over the White Transparent and 21·2 per cent. over the B. 6450; Ba. 12079, an increase of 41·8 per cent. over the White Transparent and 13·9 per cent. over the B. 6450. The other varieties, as will be seen from the table, although they gave considerable yields over the White Transparent and B. 6450 have not come up to the yields of B.H. 10 (12), Ba. 6032 or Ba. 11569.

TABLE XVIII.—WHITE TRANSPARENT AND B. 6450 COMPARED WITH SOME OF THE BETTER SEEDLING SUGAR CANES GROWN IN THE SAME FIELDS DURING THE SEASONS 1912-14 TO 1920-22.

Name or No. of cane.	No. of years.	No. of experiments.	Canes, tons per acre.	Per cent of juice by mill.	Normal Juice. Lb. per gallon of Saccharose.	Glucose.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.	Increase in saccharose lb. per acre over W. Transparent.	Increase in saccharose lb. per acre over B. 6450.	Per cent of increase over White Transparent.	Per cent of increase over B. 6450.
White Transparent and B. 6450 compared with B.H. 10 (12) grown in the same field during the seasons 1912-14 to 1920-22.													
White Transparent ...	9	83	21·48	58·81	1·99	·067	88·84	3·43	5,363	...	...	...	...
B. 6450	9	83	26·30	60·47	1·98	·067	88·07	3·37	6,761	1,398	...	26·1	...
B. H. 10 (12)	9	83	29·62	60·24	2·29	·061	90·30	2·67	8,576	3,213	1,815	59·9	26·8
White Transparent and B. 6450 compared with Ba. 6032 grown in the same field during the seasons 1913-15 to 1920-22.													
White Transparent	8	109	21·53	58·10	1·95	·065	88·89	3·43	5,207	...	...	...	...
B. 6450	8	109	27·15	60·17	1·97	·064	88·01	3·36	6,832	1,625	..	31·2	...
Ba 6032	8	109	31·76	59·73	1·95	·066	88·43	3·48	7,746	2,539	914	48·8	13·4
White Transparent and B. 6450 compared with Ba. 7924 grown in the same field during the seasons 1912-14 to 1920-22.													
White Transparent	9	66	22·65	59·07	1·96	·076	93·11	3·97	5,536	...	...	...	...
B. 6450	9	66	27·36	61·05	1·95	·076	87·51	3·85	6,902	1,366	...	24·7	...
Ba. 7924	9	66	28·76	59·58	1·97	·045	89·18	2·28	7,447	1,911	545	34·5	7·9
White Transparent and B 6450 compared with Ba. 11403 grown in the same field during the seasons 1913-15 to 1920-22.													
White Transparent	8	18	19·54	57·19	1·84	·069	87·00	3·99	4,453	...	...	...	..
B. 6450	8	18	23·83	58·14	1·80	·082	85·67	4·25	5.446	993	...	22·3	...
Ba. 11403	8	18	22·43	56·26	2·13	·059	89·93	2·86	5,696	1,243	250	27·9	4·6
White Transparent and B. 6450 compared with Ba. 11569 grown in the same field during the seasons 1913-15 to 1920-22.													
White Transparent	8	47	18·59	56·16	1·95	·061	88·31	3·26	4,311	...	...	...	...
B. 6450	8	47	23·25	58·01	1·93	·069	87·03	3·55	5,602	1,288	...	29·9	...
Ba. 11569	8	47	26·84	56·49	2·15	·062	89·74	2·93	6,788	2,474	1,186	57·3	21·2
White Transparent and B. 6450 compared with Ba. 12079 grown in the same field during the seasons 1913-15 to 1920-22.													
White Transparent	8	13	20·87	58·08	1·97	·067	88·15	3·43	5,065	...	...	...	...
B. 6450	8	13	25·30	59·79	1·96	·069	87·35	3·55	6,305	1,240	...	24·5	...
Ba. 12079	8	13	30·69	58·25	1·91	·091	86·25	4·77	7,181	2,116	876	41·8	13·9

TABLE XVIII (*Concluded*).—WHITE TRANSPARENT AND B. 6450 COMPARED WITH SOME OF THE BETTER SEEDLING SUGAR CANES GROWN IN THE SAME FIELDS DURING THE SEASONS 1912-14 TO 1920-22.

Name or No. of cane.	No. of years.	No. of experiments.	Canes, tons per acre.	Per cent. juice by mill.	Normal Juice. Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.	Increase in saccharose lb. per acre over W. Transparent.	Increase in saccharose lb. per acre over B. 6450.	Per cent. of increase over White Transparent.	Per cent. of increase over B. 6450.
White Transparent and B. 6450 compared with B.S.F. 12 (48) grown in the same field during the seasons 1914-1916 to 1920-1922.													
White Transparent	7	7	23·67	59·65	1·92	·066	88·26	3·45	5,735	..	...	...	...
B. 6450	7	7	26·43	60·43	1·87	·078	86·26	4·15	6,362	627	...	10·9	...
B.S.F. 12 (48)	7	7	29·73	58·89	2·03	·103	86·56	5·19	7,370	1,635	1,008	28·5	15·8
White Transparent and B. 6450 compared with Ba. 8069 grown in the same field during the seasons 1912-1914 to 1920-1922.													
White Transparent	9	15	19·38	57·77	1·90	·072	87·38	3·80	4,690	...	...	...	...
B. 6450 ... — ...	9	15	23·82	59·01	1·88	·068	86·22	3·69	5,882	1,192	...	25·4	...
Ba. 8069	9	15	24·51	58·62	1·83	·074	57·01	3·84	6,055	1,365	173	29·1	2·9
White Transparent and B. 6450 compared with Ba. 8409 grown in the same field during the seasons 1912-1914 to 1920-1922.													
White Transparent	9	13	21·90	60·22	1·89	·078	88·57	4·17	5,268	...	...	...	..
B. 6450	9	13	26·19	60·77	1·88	·076	87·54	4 02	6,355	1,087	...	2·06	...
Ba. 8409	9	13	28·94	59·23	1·97	·069	89·76	3·58	7,070	1,802	715	34·2	11·3
White Transparent and B. 6450 compared with Ba. 8846 grown in the same field during the seasons 1912-1914 to 1920-1922.													
White Transparent	9	13	22·82	60·08	1·97	·076	88·17	3·86	5,727	...	...	...	...
B. 6450	9	13	28·17	61·11	1·99	·071	87·68	3·61	7,158	1,431	...	25·0	...
Ba. 8846	9	13	27·64	60 26	2·13	·052	90·58	2 50	7,387	1,660	229	29·0	3·2
White Transparent and B. 6450 compared with B. 117 and B. 119 grown in the same field during the seasons 1917-1919 to 1920-1922.													
White Transparent	4	4	23·13	53·50	1·78	·084	85 57	4·69	5,056	...	...	...	...
B. 6450	4	4	26·29	60·44	1·75	·093	83·54	5·24	5,985	929	...	18·4	...
B. 117	4	4	24·24	56·94	2·24	·063	90·00	2·83	6,422	1,366	437	27·0	7·3
B. 119	4	4	24·45	59·81	1·98	·060	88·42	3·04	6,123	1,067	138	21·1	2·3

TABLE XIX. *Black Soils.—Plant Canes.*

1ST YEAR SEEDLINGS.

RESULTS OF CERTAIN OF THE SUGAR CANE UNDER EXPERIMENT FOR THE YEAR 1922.

Name or No. of cane.	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb per acre.
B. 472	1	1	41·21	2·08	·063	92·4a	3·03	9,223
B. 494	1	1	37·59	2·03	·125	90·22	6·16	8,209
B. 486	1	1	34·44	1·92	·093	91·00	4·84	7,699
B. 484	1	1	34·99	1·88	·064	89·10	3·40	7,591
B. 499	1	1	33·13	1·88	·086	89·10	4·57	7,187
B. 476	1	1	30·94	1·94	·125	90·66	6·44	6,796
B. 465	1	1	28·88	2·11	·078	92·54	3·70	6,741
B. 468	1	1	28·34	2·17	·083	91·56	3·82	6,716
B. 487	1	1	27·80	1·92	·058	88·07	3·02	6,532
B. 502	1	1	34·61	1·83	·109	86·73	5 96	6,453
B. 488	1	1	29·13	2·04	·064	91·48	3·14	6,336
B. 466	1	1	27·29	2·06	·061	90·35	2·96	6,275
B. 469	1	1	28·88	2·15	·060	91·49	2·79	6,211
B. H. 10 (12)	1	1	25·25	2·06	·069	90·35	3·35	6,184
B. 491	1	1	33·35	1·75	·125	86·63	7·14	6,088
B. 470	1	1	28·26	2·14	·083	91·06	3·88	5,986
B. 467	1	1	27·22	2·01	·119	87·39	5·92	5,934
B. 432	1	1	25·40	2·12	·066	92·98	3·11	5,845
B. 490	1	1	27·97	1·80	·096	86·96	5·33	5,765
B. 475	1	1	25·60	2·00	·104	87·72	5·20	5,504
B. 441	1	1	28·26	1·72	·132	87·31	7·67	5,432
B. 489	1	1	27·64	1·83	·076	87·56	4·15	5,371
B. 458	1	1	29·75	1·67	·119	85·64	7·13	5,349
B. 454	1	1	25·60	1·84	·125	87·21	6·79	5,238
B. 445	1	1	27·50	1·78	·179	80·54	10·06	5,226
B. 439	1	1	22·27	2·03	·069	93·12	3·40	5,156
W. Transparent ...	1	1	24·22	1·78	·089	88·12	5·00	5,124
B. 460	1	1	29·36	1 77	·139	85·51	7·85	5,087
B. 434	1	1	20·26	2·20	·063	94·83	2·86	4,737
B. 461	1	1	23·33	1·75	·104	86·63	5·94	4,685
B. 438	1	1	23·98	1·76	·109	88·00	6·19	4,671
B. 459	1	1	25·02	1·65	·192	85·49	11·64	4,665
B. 471	1	1	23·57	1·89	·081	87·50	4·29	4,207
B. 435	1	1	21·99	1·72	·109	88·21	6·34	4,152
B. 443	1	1	19·23	1·90	·125	87·16	6·58	3,979
B. 464	1	1	20·80	1·81	·156	84·58	8·62	3,911

TABLE XX. SECOND YEAR SEEDLINGS.

RESULTS OF THE BETTER SEEDLING CANES UNDER EXPERIMENT FOR THE SEASON 1920—1922.

Name or No. of cane.	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose lb. per acre.
		DODDS	PLANTATION		MILL	FIELD		
B. 405 ...	1	1	28·97	2·00	·083	91·74	4.15	7,030
B. H. 10 (12) ...	1	1	24·50	2·21	·083	96·09	3·76	6,208
B. 409 ...	1	1	19·81	2·27	·050	96·60	2·20	5,657
B. 397 ...	1	1	22·63	2·30	·051	97·05	2·22	5,525
B. 398 ...	1	1	22·55	2·19	·053	94·40	2 42	5,199
B. 396 ...	1	1	20·31	2·07	·066	92·00	3·19	4,653
B. 407 ...	1	1	19·26	2·12	·063	92·17	2·97	4,511
B. 410 ..	1	1	21·53	1·91	·053	82·33	2·77	4,456
W. Transparent ...	1	1	19·73	1·98	·114	89·59	5·76	4,209
B. 394 ...	1	1	19·79	1·67	·156	83·50	9·34	4,140
B. 404 ...	1	1	15·15	2·18	·093	95·62	4·27	3,789
B. 411 ...	1	1	16·10	1·98	·056	92·53	2·83	3,410
B. 395 ...	1	1	12·88	1·92	·139	88·89	7·24	2,901
		DODDS	PLANTATION		LOWER	CHAPEL FIELD		
B. 391 ...	1	1	29·40	1·98	·068	90·83	3·43	6,700
B. H. 10 (12) ...	1	1	26·49	2·07	·052	89·22	2·51	6,338
B. 381 ...	1	1	30·07	1·58	·109	87·29	6·90	5,591
W. Transparent ...	1	1	23·20	1·93	·066	89·35	3·42	4,927
B. 389 ...	1	1	23·07	1·65	·096	88·71	5·82	4,473
B. 384 ...	1	1	19·65	1·98	·076	92·53	3·84	4,041
B. 392 ...	1	1	16·75	1·81	·125	90 50	6·91	3,417
		DODDS	PLANTATION		PILGRIM	FIELD		
B. 425 ...	1	1	27 74	2·03	·076	91·86	3·74	5,775
B. H. 10 (12) ...	1	1	25·07	2·10	·119	90·52	5·67	5,542
B. 417 ...	1	1	24·43	1·90	·096	90·05	5·05	5,018
W. Transparent ..	1	1	22·94	1·78	·104	88·12	5·84	4,685
B. 418 ...	1	1	26·88	1·66	·132	86·01	7·95	4,623

TABLE XXI. *Red Soils.*

VARIETIES ARRANGED ACCORDING TO YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1920-1922.

Name or No. of cane.	No. of estates.	No. of plots reaped.	Canes, tons per acre.	Saccharose, lb per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
			Plant	Canes.				
B. 67	3	6	32·85	1·73	·089	88·59	5·16	7,241
Ba. 11569	3	5	33·36	1·87	·080	91·03	4·34	7,148
B. H. 10 (12) ...	4	8	31·47	1·84	·075	88·57	4·14	6,986
Ba. 12079	2	4	34·20	1·59	·117	84·87	7·38	6,487
Ba. 6032	4	8	32·36	1·62	·073	87·45	4·55	6,463
Ba. 7924	4	8	29·90	1·72	·065	89·88	3·81	6,202
B. 6450	4	8	28·53	1·65	·085	87·88	5·19	5,916
W. Transparent ...	4	8	24·55	1·72	·064	89·90	3·73	4,939
			First	Ratoons.				
Ba. 12079	2	3	36·09	1·65	·088	85·32	5·32	7,029
B. H. 10 (12)... ...	5	9	28·63	1·77	·080	87·81	4·65	6,438
Ba. 11224	1	1	31·13	1·85	·063	89·37	3·41	6,177
Ba. 11569	4	7	28·37	1·79	·080	89·19	4·46	5,889
Ba. 6032	5	9	28·62	1·57	·202	86·84	5·81	5,537
Ba. 11403	1	2	25·73	1·85	·079	89·95	4·31	5,435
Ba. 7924	5	9	26·73	1·69	·073	89·18	4·30	5,420
B. 6450	5	9	26·41	1·62	·092	85·33	5·73	5,350
B. 60	1	1	25·77	1·83	·071	84·41	3·88	5,265
B. S. F. 12 (27) ..	5	9	26·73	1·60	·092	85·58	5·84	5,153
B. S. F. 12 (24) ...	3	5	25·75	1·54	·102	86·05	6·64	4,972
W. Transparent ...	5	9	24·86	1·65	·087	88·17	5·42	4,759
			Second	Ratoons.				
Ba. 7924	1	2	34·99	1·82	·055	91·00	3·01	8,509
B. 6450	1	2	35·59	1·64	·076	86·95	4·68	7,543
B. H. 10 (12)... ...	1	2	31·14	1·92	·088	88·31	4·56	7,535
Ba. 12079	1	2	37·03	1·63	·090	84·83	5·38	7,444
B. 3922	1	2	32·95	1·74	·058	89·94	3·33	7,268
B. S. F. 12 (24) ...	1	2	29·89	1·66	·076	87·84	4·58	6,632
W. Transparent ...	1	2	30·54	1·75	·087	88.84	4·98	6,504
Ba. 6032	1	2	28·44	1·50	·101	84·16	6·88	5,511

TABLE XXII. *Black Soils—Plant Canes.*

RESULTS OF SOME OF THE BETTER SEEDLING AND OTHER SUGAR CANE UNDER EXPERIMENT FOR THE FIVE YEARS ENDING 1922.

	Name or No. of cane.	No. of experiments.	No. of years.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
1	B. 39 ...	5	5	31·00	1·89	·078	86·81	4·20	7,318
2	B.H. 10 (12) ...	73	5	25·58	2·28	·058	90·04	2·57	7,066
3	B. 18 ...	5	5	31·46	1·77	·103	85·42	5·97	6,898
4	Ba. 11569 ...	44	5	27·11	2·16	·064	89·59	2·99	6,829
5	Ba. 8409 ...	9	5	28·35	1·99	·067	89·29	3·37	6,810
6	B.S.F. 12 (50) ...	8	5	30·06	1·73	·140	80·95	5·63	6,762
7	Ba. 11402 ...	15	5	25·35	2·00	·059	89·93	2·71	6,751
8	Ba. 12079 ...	10	5	28·56	1·94	·086	86·51	4·43	6,597
9	Ba. 8069 ...	11	5	26·29	2·02	·079	87·61	3·95	6,572
10	Ba. 6 32 ...	64	5	26·56	1·94	·069	87·95	3·61	6,233
11	B.S.F. 12 (48) ...	5	5	25·30	2·00	·093	86·91	4·69	6,214
12	Ba. 8846 ...	9	5	24·13	2·09	·058	91·10	2·83	6,192
13	B.S.F. 12 (34) ...	14	5	25·14	1·88	·096	84·15	5·13	6,018
14	B.S.F. 12 (27) ...	29	5	25·77	1·88	·088	83·98	4·30	5,910
15	B. 14761 ...	5	5	23·44	2·16	·049	90·02	2·29	5,851
16	Ba. 2471 ...	32	5	24·88	2·03	·070	87·61	3·53	5,445
17	Ba. 7924 ...	52	5	23·88	1·94	·054	88·28	2·79	5,589
18	B. 6450 ...	77	5	23·21	1·93	·072	87·01	3·72	5,568
19	Ba. 11224 ...	7	5	21·47	2·18	·042	91·50	1·91	5,404
20	B.S.F. 12 (53) ...	19	5	24·18	1·84	·088	86·84	5·34	5,391
21	B.S.F. 12 (24) ...	27	5	21·89	1·96	·078	87·08	4·02	5,302
22	B.S.F. 12 (45) ...	5	5	24·67	1·84	·092	86·97	5·01	5,283
23	B. 6308 ...	28	5	22·23	1·87	·069	87·39	3·74	5,126
24	B. 376 ...	5	5	21·98	1·87	·074	87·92	3·91	4,885
25	W. Transparent ...	86	5	19·21	1·95	·073	87·99	3·78	4,419
26	B. 7169 ...	14	5	21·26	1·97	·074	87·77	3·82	4,325
27	Bourbon ...	5	5	12·03	1·61	·101	82·86	4·90	2,490

TABLE XXIII *Scotland District.*

MEAN RESULTS OF CANES UNDER EXPERIMENT FOR THE SEASON 1920-1922.

	Name or No. of cane.	No. of experiments.	Canes, tons per acre.	Saccharose, lb. per gallon.	Glucose, lb. per gallon.	Quotient of purity.	Glucose ratio.	Saccharose, lb. per acre.
			PLANT CANES.					
1	Ba. 11569 ...	2	29·06	2·00	·078	86·96	3·88	7,061
2	Ba. 6032 ...	2	29·29	1·76	·079	84·84	4·59	6,320
3	B. 6450 ...	2	25·82	1·83	·088	87·55	4·69	5,702
4	Ba. 7924 ...	2	27·15	1·74	·084	85·81	4·86	5,664
5	Ba. 11403 ...	2	22·47	1·80	·085	87·99	4·70	4,763
6	W. Transparent ..	2	20·47	1·64	·066	85·46	4·02	3,936
7	B.H. 10 (12) ...	2	19·91	1·61	·066	82·90	4·14	3,834
8	Haw. 146 ...	2	19·62	1 58	·070	84·17	4·41	3,639
			FIRST RATOONS.					
1	Ba. 11569 ...	2	29·90	2·05	·063	88·90	2·88	7,559
2	Haw. 146 ...	2	23·86	1·74	·093	85·44	5·42	5,231
3	Ba. 6032 ...	2	23·96	1·71	·063	86·14	3·65	5,179
4	B. 6450 ...	2	21·44	1·85	·066	86·36	3·67	4,280
5	Ba. 7924 ...	2	20·88	1·81	·060	87·20	3·33	4,407
	B.S.F. 12 (27) ...	2	20·77	1·76	·071	83·98	4·05	4,399
7	W. Transparent ...	2	21·34	1·69	·081	84·12	4·64	4,280
8	B.H. 10 (12) ...	2	17·01	2·08	·063	88·13	3·04	4,168

EXPERIMENTS CARRIED OUT ON DIFFERENT ESTATES WITH A NUMBER OF THE BETTER VARIETIES OF THE SEEDLING SUGAR CANES.

With the object of ascertaining the suitability of the best of the various seedling sugar canes grown, a number of experiments are carried out with the help of certain planters in the different districts of the island. As the results obtained are of special value to the sugar cane growers of the districts in which these seedlings are grown the data is given in Tables XXIV-LI.

TABLE XXIV.—CARRINGTON PLANTATION,—CHAPMAN FIELD.

Plant Canes. 1920-22.

Name or No. of cane.	No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
		Canes.	Tops.	Produce.			Sp. Gr. 30° C. 15·6° C.	Lb per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
								Saccharose.	Glucose.	Solids not sugar.							
W. Transparent ... Series i...	13,914	13·86	5·33	19·19	2·32	52·00	1·0800	1·89	·068	·222	86·70	3·60	1,495	2,826	Bad.	D.a.	Free.
Series ii...	13,148	16·42	4·25	20·67	·61	56·00	1·0809	1·92	·051	·239	86·88	2·66	1,906	3,660	Bad.	D.a.	Free.
Mean...	...	15·14	4·79	19·93	...	...	...	1·91	...	...	86·79	...	...	3,243			
B. 67 ... ... Series i...	16,697	17·28	6·52	23·80	2·90	61·00	1·0809	1·87	·076	·264	84·62	4·06	2,185	4,086	Slight.	D.a.	Free.
Series ii...	15,043	17·72	4·59	22·31	none	57·00	1·0809	1·91	·104	·196	86·43	5·45	2,093	3,998	Slight.	D.a.	Free.
Mean...	...	17·50	5·56	23·06	..	....	...	1·89	...	...	85·53	...	..	4,042			
B 85 ... ... Series i...	24,521	19·79	6·39	26·18	·66	54·00	1·0835	2·04	·069	·171	89·47	3·38	2,209	4,506	Slight.	D.a.	Free.
Series ii...	22,706	20·40	4·77	25·17	·36	51·00	1·0861	2·04	·088	·227	86·81	4·07	2,146	4,378	Slight.	D.a.	P.s.
Mean...	...	20·10	5·58	25·68	...	...	...	2·04	...	...	88·14	..	...	4,442			
B. 6308 ... ... Series i..	13,067	14·01	3·82	17·83	none	54·00	1·0782	1·83	·063	·247	85·51	3·44	1,571	2,875	Moderate.	D.a.	Free.
Series ii...	12,664	13·25	3·28	16·53	none	54·50	1·0747	1·76	·078	·202	86·27	4·43	1,505	2,649	Moderate.	D.a.	Free.
Mean ..	...	13·63	3·55	17·18	...	...	...	1·80	...	...	85·89	...	...	2,762			
B. 6450 ... ... Series i...	16,334	17·37	4·45	21·82	·71	54·00	1·0791	1·92	·086	·154	88·89	4·48	1,948	3,740	Moderate.	D.a.	P.s.
Series ii ..	13,511	12·73	3·71	16·44	none	54·50	1·0747	1·79	·096	·154	87·75	5·36	1,446	2,588	Moderate.	D.a.	Free.
Mean...	...	15·05	4·08	19·13	...	...	...	1·86	...	...	88·32	.	...	3,164			
Ba. 6032 ... ... Series i ...	13,995	20 80	3·96	24·76	·86	58·00	1·0765	1·80	·081	·209	86·12	4·50	2,510	4,518	Slight.	D.a.	Free.
Series ii...	13,148	15·84	1·71	17·55	none	55·00	1·0729	1·76	·076	·164	88·00	4·32	1,819	3,201	Slight.	D.a.	P.s.
Mean...	...	18·32	2·84	21·16	..	...	...	1·78	...	...	87 06	..	...	3,860			
Ba. 7924 ... ... Series i...	15,567	21·25	3·78	25·03	none	56·00	1·0747	1·72	·052	·268	84·31	3·02	2,480	4,266	Moderate.	D.a.	Free.
Series ii...	13,551	16·31	2·20	18·51	5·65	57·00	1·0747	1·78	·061	·199	87·25	3·43	1,938	3,450	Moderate.	D.a.	Free.
Mean...	...	18·78	2·99	21·77	...	...	...	1·75	..	...	85·78	...	...	3,858			

TABLE XXIV.—*Concluded.*—CARRINGTON PLANTATION,—CHAPMAN FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.	No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. of juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
		Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
								Saccharose.	Glucose.	Solids not sugar.							
Ba. 11569 ... ... Series i...	13,470	20·80	5·31	26·11	1·80	56·50	1·0870	2·06	·060	·250	86·92	2·91	2,421	4,987	Slight.	D.a.	Free.
Series ii ..	13,591	19·17	3·46	22·63	none	53·50	1·0879	2·13	·054	·206	89·12	2·54	2,112	4,499	Slight.	D.a.	Free.
Mean...	...	19·99	4·38	24·37	...	...	...	2·10	...	...	88·02	...	...	4,743			
B.H. 10 (12) ... .. Series i...	13,995	21·82	5·76	27·58	none	58·00	1·0861	2·07	·061	·219	88·09	2·95	2,610	5,403	Slight.	D.a.	Free.
Series ii...	13,188	16·78	1·89	18·67	none	56·00	1·0915	2·27	·056	·164	91·16	2·47	1,929	4,379	Slight.	D.a.	Free.
Mean...	...	19·30	3·83	23·13	...	...	...	2·17	...	...	89·63	...	...	4,891			
B.S.F. 12 (24)... ... Series i...	17,060	16·74	3·53	20·27	·95	53·00	1·0765	1·80	·078	·212	86·12	4·33	1,847	3,325	Slight.	D.a.	Free.
Series ii...	14,720	13·63	3·46	17·09	none	56·50	1·0791	1·89	·100	·170	87·50	5·29	1,599	3,022	Slight.	D.a.	P.s.
Mean...	...	15·19	3·49	18·68	...	...	...	1·85	...	...	86·81	...	...	3,174			

SELECTED VARIETIES.

TABLE XXV.—COVERLEY PLANTATION :—NORTH MERIBO FIELD.

Plant Canes. 1920—1922.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. of juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diapreps abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
									Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	Series i...	12,906	14·58	3·65	18·23	12·50	57·00	1·0747	1·86	·109	·071	91·18	5·86	1,733	3,223	Bad.	D.a.	Free.
	Series ii...	11,413	16·38	4·07	20·45	4·59	59·50	1·0773	1·88	·078	·152	89·10	4·15	2,077	3,811	Bad.	D.a.	Free.
	Mean...		15·48	3·86	19·34	...	...	...	1·87	..	...	90·14	...	...	3,517	...		...
B. 67 ...	Series i...	15,366	18·80	4·05	22·85	5·77	61·50	1·0844	2·05	·096	·154	89·13	4·68	2,388	4,895	Slight.	D.a.	Free.
	Series ii...	15,809	21·34	4·41	25·75	5·10	60·00	1·0817	1·98	·058	·192	88 97	2·93	2,651	5,249	Slight.	D.a.	Free.
	Mean...		20·07	4·23	24·30	...	...	...	2·02	....	...	89·05	...	...	5,072	...		...
B. 2001 ...	Series i...	15,245	17·42	3·78	21·20	7.41	51·50	1·0773	1·82	·119	·171	86·26	6·54	1,866	3,396	Slight.	D.a.	Free.
	Series ii...	14,398	21·68	3·82	25 50	1·68	57·00	1·0747	1·69	·125	·225	82·84	7·40	2,575	4,352	Slight.	D.a.	Free.
	Mean...		19·55	3·80	23·35	...	...	...	1 76	...	...	84·55	.	...	3,874	...		...
B. 6450 ...	Series i...	16,213	18·40	4·47	22·87	6·47	57·00	1·0773	1·80	·071	·219	86·12	3·94	2,182	3,928	Slight.	D.a.	Free.
	Series ii...	18,834	18·67	4·23	22·90	1·92	59·50	1·0765	1·81	·064	·236	85·78	3·54	2,310	4,181	Moderate.	D.a.	Free.
	Mean...		18·54	4·35	22·89	...	...	...	1·81	...	...	85·95	...	...	4,055	..		...
Ba. 6032 ...	Series i...	16,535	21·50	3·71	25·21	5·12	57·00	1·0729	1·81	·125	·065	90·50	6·91	2,558	4,630	Slight.	D.a.	Free.
	Series ii...	15,083	27·83	4·05	31·88	4·23	61·00	1·0756	1·85	·083	·137	89·37	4·49	3,536	6,541	Slight.	D.a.	Free.
	Mean...		24·67	3·88	28·55	...	...	...	1·83	...	...	89·94	...	...	5,586	...	...	...
Ba. 8069 ...	Series i...	14,398	20·11	4·16	24·27	4·76	57·50	1·5826	2·01	·083	·157	89·34	4·13	2,393	4,810	Slight.	D.a.	Free.
	Series ii...	15,245	20·45	3·26	23·71	5·29	58·00	1·0844	2·07	·071	·159	90 00	3·43	2,450	5,072	Slight.	D.a.	Free.
	Mean...		20·28	3·71	23·99	..	...	...	2·04	...	..	89 67	...	...	4,941	...	...	...
Ba. 8409 ...	Series i...	16,535	23·44	5·44	28·88	·49	60·50	1·0853	2·11	·050	·160	90·95	2·37	2,927	6,176	Moderate.	D.a.	Free.
	Series ii...	15,487	17·37	3·78	21·15	6·77	57·50	1·0335	2·05	·074	·156	89·91	3·61	2,065	4,233	Moderate.	D a.	Free.
	Mean...		20·41	4·61	25·02	...	..	...	2·08	...	...	90·43	...	...	5,205	...	...	...

SELECTED VARIETIES.

TABLE XXV.—*Concluded.*—COVERLEY PLANTATION—NORTH MERIBO FIELD.

Plant Canes. 1920—1922.

Name or No. of cane.	No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
		Canes.	Tops.	Produce.			Sp. Gr. 30°C. 16·6° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
								Saccharose.	Glucose.	Solids not sugar.							
Ba. 11403 Series i...	12,623	17·66	4·79	22·45	2·88	58·00	1·0897	2·22	·081	·139	90·98	3·65	2,106	4,675	Slight.	D.a.	Free.
Series ii...	13,390	16·29	3·60	19·89	none.	57·50	1·0861	2·17	·068	·112	92·34	3·13	1,932	4,192	Slight.	D.a.	Free.
Mean...		16·98	4·19	21·17	..	..	...	2·20	..	...	91·66	...	...	4,434	...	...	...
Ba. 11569 .. Series i...	13,712	25·19	4·07	29·26	1·47	60·00	1·0870	2·16	·063	·147	91·14	2·92	3,114	6,726	Slight.	D.a.	Free.
Series ii..	15,164	22·87	2·74	25·61	14·36	58·50	1·0879	2·16	·063	·167	90 38	2·92	2,754	5,949	Slight.	D.a.	Free.
Mean...		24·03	3·41	27·44	...	...	...	2 16	...	...	90·76	...	...	6,338	...	...	...
B.H. 10 (12) ... Series i .	14,196	20 62	3·15	23·77	·35	58·50	1·0951	2·25	·089	·241	87·21	3·96	2,467	5,551	Slight.	D.a.	P.s.
Series ii...	14,236	14·17	2·90	17·07	3·40	60·00	1 0888	2·18	·063	·177	90·08	2·89	1,749	3,813	Slight.	D.a.	Free.
Mean...		17·40	3·02	20·42	...	...	...	2·22	...	....	88·65	...	...	4,682	...	...	....

SELECTED VARIETIES.

TABLE XXVI.—PICKERINGS PLANTATION :—BAMBOO FIELD.

Plant Canes 1920—22.

Name or No. of cane.	No. of canes per acre,	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Sp. Gr. 30° C. / 16·6° C.	Normal Juice.					Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
								Lb. per gallon of									
		Canes.	Tops.	Produce.				Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.				*Diapreps abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent Series i...	15,024	11·68	2·68	14·36	9·90	58·00	1·0791	1·98	·049	·131	91·67	2·47	1,406	2,784	Bad.	D.a.	Free.
Series ii ..	17,280	14·58	2·62	17·20	12·80	52·00	1·0773	1·98	·041	·089	93·84	2·07	1,576	3,120	Bad.	D.a.	Free.
Mean..	...	13·13	2·65	15·78	...	...	...	1·98	...	...	92·76	...	..	2,952	...	..	...
B. 76 ... ... Series i..	12,793	15·48	3·71	19·19	5·63	51·00	1·0826	2·01	·089	·151	89·34	4·43	1,633	3,282	Moderate.	D.a.	Free.
Series ii...	16,509	14·33	3·38	17·71	8·72	53·00	1·0782	1·86	·063	·217	86·92	3·39	1,578	2,935	Moderate.	D.a.	Free.
Mean...	..	14·91	3·54	18·45	..	...	...	1·94	...	...	88·13	...	...	3,109	...	..	...
B. 268 ... Series i ..	12,266	13·21	2·64	15·85	13·48	58·00	1·0800	2·02	·042	·118	92·66	2·03	1,590	3,212	Moderate.	D.a.	Free.
Series ii...	14,399	19·78	2·55	22·33	4·81	59·00	1·0765	1·83	·050	·210	87·56	2·73	2,429	4,445	Slight.	D.a.	Free.
Mean...	...	16·50	2·59	19·09	...	...	...	1·93	...	...	90·11	..	..	3,829	...	....	..
B. 2001 ... Series i..	16,045	14·79	3·21	18·00	4·27	55·50	1·0835	2·07	·069	·149	90·79	2·95	1,696	3,511	Moderate.	D.a.	Free.
Series ii...	17,012	17·02	2·62	19·64	10·66	50·00	1·0738	1·78	·08.	·159	88·12	4·55	1,776	3,161	Slight.	D.a.	Free.
Mean...	...	15·91	2·91	18·82	...	...	...	1·93	...	...	89·46	...	...	3,336	...	....	...
Ba. 6032 ... Series i...	14,160	21·24	4·01	25·25	1·36	53·50	1·0791	2·03	·050	·080	93·98	2·46	2,358	4,787	Slight.	D.a.	Free.
Series ii...	13,776	18·54	3·11	21·65	6·97	54·00	1·0791	1·98	·049	·031	91·67	2·47	2,078	4,114	Slight.	D.a.	Free.
Mean...	...	19·89	3·56	23·45	...	...	...	2·01	...	...	92·83	..	...	4.451	...	...	...
Ba. 7924 ... Series i...	18,001	17·47	3·51	20·98	14·00	53·00	1·0782	1·98	·036	·124	92·53	1·82	1,924	3,810	Moderate.	D.a.	Free.
Series ii...	19,554	19·59	2·61	22·20	9·69	52·00	1·0782	1·85	·068	·222	86·45	3·68	2,116	3,915	Moderate.	D.a.	Free.
Mean...	...	18·53	3·06	21·59	..	..	...	1·92	...	...	89 49	...	...	3,863	...	...	...
Ba. 11569 ... Series i...	16,560	21·81	3·75	25·56	13·62	60·50	1·0879	2·20	·011	·149	92·05	1·86	2,717	5,977	Slight.	D.a.	Free.
Series ii...	18,480	22·26	2·46	24·72	7·79	55·50	1·0915	2·26	·058	·172	90 76	2·57	2,536	5,731	Slight.	D.a.	Free.
Mean...	...	22·04	3·10	25·14	...	...	...	2·23	...	...	91·41	...	...	5,854	...	...	...
B.H. 10 (12) ... Series i...	15,888	15·75	3·06	18·81	12·69	52·00	1·0924	2·32	·049	·141	92 43	2·11	1,679	3,895	Bad.	D.a.	Free.
Series ii...	12,497	12·60	2·18	14·78	9·88	53·00	1·0924	2·27	·049	·191	90·44	2·16	1,370	3,110	Bad.	D.a.	Free.
Mean...	...	14·18	2·62	16·80	...	...	...	2·30	...	...	91·44	...	...	3,503	...	...	...

TABLE XXVII.—WATERFORD PLANTATION :—TEN ACRE DIXON FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.			No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Walker.
				Canes.	Tops.	Produce.			Sp. Gr. 30° C./16·6° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.			
										Saccharose.	Glucose.	Solids not sugar.					
W. Transparent	...	Series i...	9,195	16·44	4·77	21·21	10·97	57·50	1·0729	1·81	·081	·109	90·50	4·48	1,973	3,571	Bad.
		Series ii...	8,994	15·65	3·73	19·38	4·48	57·00	1·0676	1·59	·081	·189	85·49	5·09	1,871	2,975	Bad.
		Mean..	...	16·05	4·25	20·30	...	...	...	1·70	...	...	88 00	...	...	3,273	
B. 67	... ...	Series i...	16,074	18 75	3·65	22·40	3·49	59·00	1·0765	1·90	·081	·109	90·91	4·26	2,302	4,374	Moderate.
		Series ii...	13,809	17·70	3·40	21·10	10·83	62·00	1 0782	1·85	·083	·207	86·45	4·49	2,280	4,218	Slight.
		Mean...	...	18·23	3·52	21·75	....	....	...	1·88	...	...	88·68	...	...	4,296	
B. 6450	... ...	Series i...	18,350	22·60	4·81	27 41	2·43	59·00	1·0676	1·64	·109	·111	88·17	6·65	2,797	4,587	Slight.
		Series ii ..	20,185	23·25	4·59	27·84	3·54	61·50	1·0712	1·66	·083	·207	85 13	5·00	2,990	4,963	Slight.
		Mean...	..	22·93	4·70	27·63	...	...	...	1·65	...	...	86·65	...	...	4,775	
Ba. 2471	... ...	Series i...	27,021	22·27	4·31	26·58	5·52	53·00	1·0747	1·80	·089	·151	88·2	4·94	2,460	4,429	Bad.
		Series ii..	22,867	20·40	4·27	24·67	2·29	56·00	1·0747	1·76	·114	·166	86 27	6·48	2,381	4,191	Slight.
		Mean...	..	21·34	4·29	25·63	...	...	...	1·78	...	...	87 26	...	...	4,310	
Ba. 6032	... ...	Series i...	15,164	22·36	3·80	26 16	1·86	60·00	1·0684	1·70	·104	·076	90·43	6 12	2,811	4,779	Slight.
		Series ii...	15,729	26·83	5·37	32·20	2·31	61·00	1·0676	1·67	·049	·141	89·79	2·93	3,436	5,738	Slight
		Mean...	...	24·60	4·58	29·18	..	...	...	1·69	...	...	90 11	...	...	5,259	
Ba. 7924	... ...	Series i...	19,318	20·24	3·29	23 53	8·56	53·00	1·0694	1·68	·050	·170	88·42	2·98	2,247	3,775	Moderate.
		Series ii...	12,180	15·72	3·01	18·73	3·64	60 00	1·0747	1·84	·100	·100	90·20	5·43	1,966	3,617	Moderate.
		Mean...	...	17·98	3·15	21·13	...	...	...	1·76	...	...	89 31	...	...	3,696	
Ba. 11408	... ...	Series i...	18,700	23·26	6·80	30 06	1·47	56·00	1 0729	1·69	·063	·247	84·50	3·73	2,721	4,598	Slight.
		Series ii...	15,046	18·48	5·57	24·05	3·15	57·50	1·0809	1·99	·071	·149	90·05	3·57	2,203	4,384	Moderate.
		Mean...	...	20 87	6·19	27·06	...	...	...	1·84	...	...	87·28	...	..	4,491	

TABLE XXVII.—*Concluded.*—WATERFORD PLANTATION:—TEN ACRE DIXON FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.	No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.
		Canes.	Tops.	Produce.			Sp. Gr. $\frac{30°\ C.}{16·6°\ C.}$	Lb. per gallon of			Quotient of purity.	Glucose ratio.			
								Saccharose.	Glucose.	Solids not sugar.					
Ba. 11569 ... ... Series i...	18,995	28·15	3·83	31·98	1·49	60·00	1·0747	1·84	·076	·124	90·20	4·13	3,521	6,479	Slight.
Series ii...	17,074	23·68	5·01	28·69	7·48	56·00	1·0817	2·01	·051	·169	90·14	2·54	2,746	5,519	Slight.
Mean...	...	25·92	4·42	30·34	...	...	...	1·93	...	...	90·17	...	...	5,999	
W. No. 2 ... ... Series i...	14,801	20·69	5·64	26·33	·82	53·00	1·0791	1·86	·060	·240	86·11	3·23	2,276	4,233	Moderate.
Series ii...	11,333	19·93	3·33	23·26	5·34	60·00	1·0729	1·78	·066	·154	89·00	3·71	2,497	4,445	Moderate.
Mean...	...	20·31	4·49	24·80	...	...	...	1·82	...	...	87·56	...	...	4,339	
B. H. 10 (12) ... .. Series i. .	12,785	24·07	3·73	27·80	6·30	59·00	1·0853	2·11	·074	·136	90·95	3·51	2,931	6,184	Moderate.
Series ii ..	12,906	18·90	3·83	22·73	2·50	63·00	1·0853	2·13	·064	·126	91·81	3·00	2,458	5,236	Moderate.
Mean...	...	21·49	3·78	25·27	...	...	...	2·12	...	...	91·38	...	...	5,710	
B. S. F. 12 (50) ... Series i ..	13,793	21·37	3·37	24·74	2·63	58·00	1·0703	1·56	·109	·261	80·83	6·99	2,594	4,047	Slight.
Series ii...	14,236	17·43	3·55	20·98	5·38	47·00	1·0729	1·69	·049	·261	84·50	2·90	1,710	2,890	Slight.
Mean...	...	19·40	3·46	22·86	...	...	...	1·63	...	...	82·67	...	...	3,469	

SELECTED VARIETIES.

TABLE XXVIII.—WALKERS PLANTATION—DRY RIVER FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.			No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
				Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·5° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
										Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	...	Series i...	19,241	20·82	3·57	24·39	12·35	55·00	1·0663	1·59	·063	·187	86·41	3·96	2,406	3,826	Bad.	Free.	Free.
		Series ii...	16,260	20·12	3·91	24·03	3·57	57·00	1·0729	1·69	·069	·241	84·50	4·08	2,394	4,046	Bad.	Free.	Free.
		Mean...	...	20·47	3·74	24·21	...	...	...	1·64	...	...	85·46	...	...	3,936			
B. 6450	... ...	Series i...	21,537	20·86	5·30	26·16	11·03	59·00	1·0835	2·00	·114	·166	87·72	5·70	2,544	5,088	Moderate.	Free.	Free.
		Series ii...	29,613	30·78	4·01	34·79	12·07	59·00	1·0694	1·66	·061	·089	87·37	3·67	3,804	6,315	Slight.	Free.	Free.
		Mean ...	...	25·82	4·66	30·48	...	...	...	1·83	...	...	87·55	...	...	5,702			
Ba. 6032	... ...	Series i .	20,484	27·57	4·21	31·78	6·16	60·00	1·0835	2·01	·076	·194	88·16	3·78	3,420	6,874	Slight.	Free.	Free.
		Series ii...	19,047	31·01	3·91	34·92	1·83	59·00	1·0663	1·50	·081	·259	81·52	5·40	3,843	5,765	Slight.	Free.	Free.
		Mean...	...	29·29	4·06	33·35	...	...	...	1·76	...	...	84·84	...	...	6,320			
Ba. 7924	... ...	Series i...	22,260	23·65	4·61	28·26	1·15	56·00	1·0703	1·62	·089	·221	83·94	5·49	2,772	4,491	Moderate.	Free.	Free.
		Series ii...	19,918	30·64	4·07	34·71	7·87	58·00	1·0773	1·85	078	·182	87·68	4·22	3,695	6,836	Slight.	Free.	Free.
		Mean...	...	27·15	4·34	31·49	...	...	...	1·74	...	...	85·81	...	...	5,664			
Ba. 11403	... ...	Series i...	18,872	20·83	6·91	27·74	1·02	58·00	1·0738	1·72	·083	·217	85·15	4·83	2,520	4,334	Slight.	Free.	Free,
		Series ii...	19,301	24·11	5·94	30·05	None.	55·00	1·0756	1·88	086	·104	90·82	4·57	2,761	5,191	Slight.	Free.	Free.
		Mean...	...	22·47	6·43	28·90	...	...	...	1·80	...	...	87·99	...	...	4,763			
Ba. 11569	... ...	Series i...	19,628	28·62	4·43	33·05	3·85	57·00	1·0835	1·98	·074	·226	86·84	3·74	3,373	6,679	Slight.	Free.	Free.
		Series ii...	20,731	29·50	4·36	33·86	4·20	60·50	1·0853	2·02	·081	·219	87·07	4·01	3,684	7,442	Slight.	Free.	Free.
		Mean...	...	29·06	4·40	33·46	...	...	...	2·00	..	...	86·96	...	...	7,061			
B. H. 10 (12)	... ...	Series i..	13,937	19 08	4·20	23·28	2·50	57·50	1·0694	1·52	·069	·311	80·00	4·54	2,298	3,493	Slight.	Free.	Free.
		Series ii..	18,118	20·74	2·46	23·20	7·69	57·00	1·0721	1·69	·063	·217	85·79	3·73	2,470	4,174	Slight.	Free.	Free.
		Mean...	...	19·91	3·33	23·24	...	...	...	1·61	...	...	82·90	...	...	3,834			
Haw. 146	... ...	Series i...	16,390	22·09	3·29	25·38	None.	57·00	1·0712	1·67	·076	·204	85·64	4·55	2,633	4,397	Slight.	Free.	Free.
		Series ii...	15,098	17·14	1·89	19·03	3·08	54·00	1·0649	1·48	·063	·247	82·69	4·26	1,946	2,880	Slight.	Free.	Free.
		Mean...	...	19·62	2·59	22·21	...	...	...	1·58	...	...	84·17	...	...	3,639			

TABLE XXIX.—CLIFTON HALL PLANTATION.—GOAT FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.			No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
				Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·6° C.	Lb per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent	...	Series i...	19,221	23·46	6·92	30·38	3·93	57·50	1·0694	1·72	·069	·111	90·52	4·01	2,826	4,860	Bad.	Free.	Free.
		Series ii..	18,350	28·05	8·32	36·37	4·75	55·00	1·0729	1·81	·049	·141	90·50	2·71	3,221	5,830	Bad.	Free.	Free.
		Mean...	...	25·76	7·62	33·38	...	...	...	1·77	...	...	90·51	...	...	5,345			
B. 67		Series i...	25,383	33·22	8·78	42·00	2·94	65·00	1·0738	1·76	·078	·182	87·13	4·43	4,504	7,927	Moderate.	Free.	Free.
		Series ii...	17,711	34·79	8·58	43·37	2·95	64·00	1·0712	1·76	·086	·104	90·26	4·89	4,656	8,195	Slight.	Free.	Free.
		Mean...	...	34·01	8·68	42·69	...	...	...	1·76	...	...	88·70	...	...	8,061			
B. 6450		Series i ..	25,493	33·47	7·91	41·38	4·78	64·00	1·0663	1·59	·109	·141	86·41	6·86	4,500	7,155	Moderate.	Free.	Free.
		Series ii...	26,538	43·14	8·32	51·46	4·16	61·00	1·0676	1·62	·078	·162	87·10	4·81	5,518	8,939	Moderate.	Free.	Free.
		Mean...	..	38·31	8·11	46·42	...	...	...	1·61	...	...	86·76	...	...	8,047			
Ba. 6032		Series i ..	17,363	36·35	5·52	41·87	3·01	64·50	1·0663	1·57	·074	·196	85·33	4·71	4,925	7,732	Slight.	Free.	Free.
		Series ii...	18,234	36·99	6·25	43·24	2·23	59·50	1·0658	1·59	·083	·137	87·85	5·22	4,626	7,355	Slight.	Free.	Free.
		Mean...	...	36·67	5·89	42·56	..	...	...	1·58	...	...	86·59	...	...	7,544			
Ba. 7924		Series i ..	20,963	32·31	7·96	40·27	2·49	61·00	1·0729	1·81	·061	·129	90·50	3·37	4,114	7,446	Moderate.	Free.	Free.
		Series ii...	26,596	36·03	7·13	43·16	1·53	61·50	1·0721	1·81	·068	·092	91·88	3·76	4,630	8,380	Moderate.	Free.	Free.
		Mean...	...	34·17	7·55	41·72	...	...	...	1·81	...	...	91·19	...	...	7,913			
Ba. 12079		Series i...	27,583	43·14	13·61	56·75	1·05	60·00	1·0703	1·67	·104	·156	86·53	6·23	5,417	9,046	Slight.	Free.	Free.
		Series ii...	23,634	35·93	13·32	49·25	2·70	57·50	1·0663	1·51	·119	·211	82·07	7·88	4,340	6,553	Slight.	Free.	Free.
		Mean...	...	39·54	13·46	53·00	...	...	...	1·59	...	...	84·30	..	..	7,800			
B. H. 10 (12) ...		Series i...	19,337	38·73	11·07	49·80	·90	62·00	1·0756	1·84	·083	·147	88·89	4·51	5,001	9,202	Slight.	Free.	Free.
		Series ii...	16,201	40·49	9·51	50·00	3·94	60·50	1·0721	1·67	·086	·214	84·77	5·15	5,119	8,549	Slight.	Free.	Free.
		Mean...	...	39·61	10·29	49·90	...	...	...	1·76	...	...	86·83	...	...	8,876			

TABLE XXX.—CLIFTON PLANTATION—SIX ACRE FIELD.

SELECTED VARIETIES.

Plant Canes.

1920—1922.

Name or No. of cane.			No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Sp. Gr. $\frac{30^\circ C.}{16{\cdot}6^\circ C.}$	Normal Juice.					Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
				Canes.	Tops.	Produce.				Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.				*Diapreps abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent	...	Series i...	13·614	24·48	6·16	30·64	1·42	55·50	1·0676	1·69	·068	·102	90·86	4·02	2,851	4,818	Bad.	Free.	Free.
		Series ii...	16,332	26·72	6·85	33·57	None.	56·50	1·0694	1·67	·083	·147	87·90	4·97	3,164	5,284	Bad.	Free.	Free.
		Mean...	...	25·60	6·51	32·11	...	...	...	1·68	...	...	89·38	...	...	5,051	...	...	...
B. 6450	...	Series i ..	15,519	20·36	5·94	26·30	None.	59·50	1·0676	1·65	·068	·142	88·71	4·12	2,542	4,194	Slight.	Free.	Free.
		Series ii ..	15,678	20·00	5·33	25·33	4·76	59·00	1·0663	1·58	·125	·135	85·87	7·91	2,478	3,915	Slight.	Free.	Free.
		Mean...	...	20·18	5·64	25·82	...	...	...	1·62	...	...	89·29	...	...	4,055	...	...	...
Ba. 6032	...	Series i...	16,168	29·93	4·20	34·13	None.	57·00	1·0649	1·59	·083	·117	88·83	5·22	3,588	5,705	Slight.	Free.	Free.
		Series ii ..	18,329	28·10	6·12	34·22	None.	59·00	1·0649	1·54	·083	·167	86·03	5·39	3,487	5,370	Slight.	Free.	Free.
		Mean...	...	29·02	5·16	34·18	...	...	...	1·57	..	...	87·43	...	...	5,538	..	...	...
Ba. 7924	...	Series i...	17,830	23·88	5·26	29·14	None.	56·00	1·0694	1·67	·058	·172	87·90	3·47	2,801	4,678	Slight.	Free.	Free.
		Series ii...	18,291	24·00	3·38	27·38	None.	58·00	1·0684	1·67	·064	·146	88·83	3·83	2,918	4,873	Slight.	Free.	Free.
		Mean...	...	23·94	4·32	28·26	...	...	...	1·67	...	...	88·37	...	...	4,776	...	...	...
Ba. 11403	...	Series i...	16,955	23·69	8·09	31·78	None.	54·00	1·0694	1·70	·086	·114	89·48	5·06	2,689	4,556	Slight.	Free.	Free.
		Series ii..	16,136	22·14	8·60	30·74	None.	54·00	1·0703	1·70	·068	·162	88·08	4·00	2,502	4,253	Slight.	Free.	Free.
		Mean...	...	22·92	8·34	31·26	...	...	...	1·70	...	...	88·78	...	...	4,405	...	...	...
Ba. 11569	...	Series i..	21,152	35·33	10·89	46·22	None.	54·00	1·0703	1·73	·109	·091	89·64	6·30	3,993	6,908	Slight.	Free.	Free.
		Series ii...	19,660	29·66	10·28	39·94	2·53	54·50	1·0756	1·88	·074	·116	90·82	3·94	3,367	6,330	Slight.	Free.	Free.
		Mean...	...	32·50	10·58	43·08	...	...	...	1·81	...	...	90·23	...	...	6,619	...	...	...
Ba. 12079	...	Series i...	23,983	32·53	7·26	39·79	None.	52·50	1·0638	1·54	·119	·151	85·08	7·73	3,590	5,529	Slight.	Free.	Free.
		Series ii...	21,486	25·20	7·91	33·11	None.	56·00	1·0694	1·63	·125	·145	85·79	7·67	2,956	4,818	Slight.	Free.	Free.
		Mean...	...	28·87	7·58	36·45	...	...	...	1·59	...	...	85·41	...	...	5,174	..	...	...
B.H. 10 (12)	...	Series i...	15,429	22·70	5·74	28·44	None.	60.50	1·0782	1·91	·081	·149	89·25	4·24	2,853	5,449	Slight.	Free.	Free.
		Series ii...	18,775	27·05	12·14	39·19	None.	57·00	1·0765	1·82	·068	·202	87·08	3·74	3,208	5,839	Slight.	Free.	Free.
		Mean...	...	24·88	8·94	33·82	...	...	...	1·87	...	...	88·17	...	...	5,644	...	...	...

TABLE XXXI.—HENLEY PLANTATION:—SWAMP FIELD.

SELECTED VARIETIES.

Plant Canes.

1920—1922.

Name or No. of cane.			No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
				Canes.	Tops.	Produce.			Sp. Gr. $\frac{30°\ C.}{16·6°\ C.}$	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diagrepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
										Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	...	Series i...	13,414	11·61	3·88	15·49	·87	55·00	1·0703	1·70	·061	·169	88·08	3·59	1,337	2,273	Bad.	Free.	Free.
		Series ii..	18,408	19·05	5 83	24·88	6·31	53·00	1·0712	1·77	·063	·117	90·77	3·56	2,112	3,738	Bad.	Free.	
		Mean..	...	15·33	4·86	20·19	...	...	...	1·74	...	...	89·43	....	...	3,006			
B. 67	...	Series i...	20,965	20·25	4·86	25·11	5·64	58·00	1·0712	1·67	·125	·155	85·64	7·49	2,456	4,101	Bad.	Free.	Free.
		Series ii...	16,201	24·76	6·76	31·52	None.	57·50	1·0712	1·74	·063	·147	89·23	3·62	2,977	5,180	Moderate.	Free.	Free.
		Mean...	...	22·51	5·81	28·32	...	...	...	1·71	...	...	87·14	...	...	4,641			
B. 3922 ...	...	Series i...	11,572	9·61	4·39	14·00	None.	54·50	1·0676	1·59	·109	·161	85·49	6·86	1,099	1,747	Bad.	Free.	Free.
		Series ii ..	16,434	24·89	6·35	31·24	2·12	58·00	1·0684	1 70	·081	·099	90·43	4·76	3,026	5,144	Slight.	P.s.	Free.
		Mean...	...	17·25	5·37	22·62	...	...	..	1·65	...	...	87·96	...	...	3,446			
B. 6450 ...	...	Series i...	14,575	14·39	5·47	19 86	2·39	55·50	1·0684	1·67	·074	·136	88·83	4·43	1,674	2,796	Moderate.	Free.	Free.
		Series ii..	21,478	25·25	5·12	30·37	2 ·60	54·00	1·0703	1·69	·069	·171	87·57	4·08	2,854	4,823	Moderate.	Free.	Free.
		Mean...	...	19·82	5·30	25·12	...	...	...	1·68	...	...	88·20	....	...	3,810			
Ba. 2471 ...	...	Series i...	36,584	17·16	4·71	21·87	·60	47·00	1·0703	1·58	·119	·231	81·87	7·53	1,688	2,667	Slight.	Free.	Free.
		Series ii...	25,762	23·41	3·97	27·38	4·63	50·00	1·0721	1·62	·109	·241	82·23	6·73	2,146	3,963	Slight.	Free.	Free.
		Mean...	...	20·29	4·34	24·63	..	..	...	1·60	..	...	82·05	...	...	3,315	...	...	...
Ba. 6032 ...	..	Series i...	13,414	22·48	3·71	26·19	·86	57·00	1·0676	1·62	·083	·157	87·10	5·12	2,688	4,355	Slight.	Free.	Free.
		Series ii..	14,575	27·66	6·87	34·53	None.	53·50	1·0694	1·63	·069	·301	85·79	4·23	3,100	5,053	Slight.	Free.	Free.
		Mean...	....	25·07	5·29	23·36	...	...	...	1·63	...	...	86·45	...	...	4,704	...	...	...
Ba. 7924 ...	...	Series i...	19,783	31·02	4·58	35·60	2·20	54·50	1·0721	1·78	·060	·130	90·36	3·37	3,533	6,289	Moderate.	Free.	Free.
		Series ii...	19,528	23·66	6·02	29·68	6·10	52·00	1 0658	1·53	·093	·187	84·53	6·08	2,585	3,955	Moderate.	Free.	Free
		Mean...	...	27·34	5·30	32·64	...	...	...	1·66	...	...	87·45	...	...	5,122	...		...

SELECTED VARIETIES.

TABLE XXXI.—*Concluded.*—HENLEY PLANTATION :—SWAMP FIELD.

Plant Canes. 1920—1922

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect-pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
									Saccharose.	Glucose.	Solids not sugar.							
Ba. 11569	Series i...	16,009	25·70	9·00	34·70	None.	55·00	1·0747	1·83	·101	·106	89·71	5·68	2,946	5,391	Slight.	Free.	Free.
	Series ii...	28,619	26·44	8·83	35·27	1·30	52·00	1·0756	1·84	·081	·149	88·89	4·40	2,863	5,268	Slight.	Free.	Free.
	Mean...		26·07	8·92	34·99	...	...	...	1·84	...	...	89·30	...	...	5,330	...	...	...
B.H. 10 (12) ...	Series i...	16,724	27·48	4·69	32·17	None.	55·00	1·0712	1·65	·076	·224	84·62	4·61	3,160	5,214	Moderate.	Free.	Free.
	Series ii...	19,105	23·10	6·35	29·45	·61	55·00	1·0738	1·76	·089	·171	87·13	5·06	2,650	4,664	Slight.	Free.	Free.
	Mean...		25·29	5·52	30·81	...	...	...	1·71	...	...	85·88	...	...	4,339	...	...	...
B. S. F. 12 (24) ...	Series i ..	20,738	23·48	4·93	28·41	1.60	55·00	1·0676	1·60	·125	·135	86·02	7·81	2,700	4,320	Slight.	Free.	Free.
	Series ii...	18,845	17·64	3·82	21·46	4·21	56·50	1·0684	1·61	·081	·189	85·64	5·03	2,089	3,363	Slight.	Free.	Free.
	Mean...		20·56	4·38	24·94	...	...	...	1·61	...	...	85·83	.	...	3,842	...	...	...

TABLE XXXII.—LEMON ARBOR PLANTATION.—NORTH PUMP POND FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.			No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
				Canes.	Tops.	Produce.			Sp. Gr. 30° C./16·6° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diopsepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
										Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	...	Series i...	24,738	31·60	7·93	39·53	15·96	54·00	1·0633	1·52	·056	·164	87·36	3·68	3,595	5,464	Bad.	Free.	Free.
		Series ii...	19,492	31·42	7·36	38·78	4·23	59·50	1·0747	1·86	·061	·119	91·18	3·28	3,897	7,248	Bad.	Free.	Free.
		Mean...	...	31·51	7·65	39·16	..	...	...	1·69	...	...	89·27	..	...	6,353			
B. 67	...	Series i...	18,989	46·66	9·72	56·38	1·83	57·00	1·0694	1·67	·075	·155	87·90	4·49	5,571	9,304	Slight.	Free.	Free.
		Series ii...	19,047	37·46	6·19	43·65	·61	62·00	1·0721	1·80	·109	·061	91·37	6·06	4,853	8,735	Slight.	Free.	Free.
		Mean...	...	42·05	7·96	50·02	...	...	...	1·74	...	...	89.64	...	...	8,020			
B. 6450 ...	...	Series i...	21,172	38·35	6·73	45·08	3·80	60·00	1·0663	1·62	·078	·142	88·04	4·81	4,833	7,829	Slight.	Free.	Free.
		Series ii ..	16,311	33·31	5·86	39·17	3·30	61·00	1·0729	1·81	·081	·109	90·50	4·48	4,243	7,680	Slight.	Free.	Free.
		Mean...	...	35·83	6·30	42·13	...	...	...	1·72	...	...	89·27	...	...	7,755			
Ba. 6032 ...	...	Series i..	18,002	45·24	6·25	51·49	None.	62·00	1·0649	1·56	·050	·180	87·15	3·21	5,900	9,204	Slight.	Free.	Free.
		Series ii .	13,588	32·09	5·49	37·58	None.	56·50	1·0729	1·83	·061	·109	91·50	3·33	3,786	6,928	Slight.	Free.	Free.
		Mean...	...	38·67	5·87	44·54	...	...	...	1·70	...	...	89·33	...	..	8,066			
Ba. 7924 ...	...	Series i...	20,034	34·56	6·53	41·09	None.	58·00	1·0676	1·73	·050	·080	93·01	2·89	4,205	7,275	Slight.	Free.	Free.
		Series ii...	19,163	33·70	6·69	40·39	None.	55·00	1·0684	1·73	·064	·086	92·02	3·70	3,886	6,723	Slight.	Free.	Free.
		Mean...	...	34·13	6·61	40·74	...	...	...	1·73	...	...	92·52	...	...	6,999			
Ba. 11569 ...	...	Series i...	19,343	38·72	5·07	43·79	None.	54·50	1·0747	1·90	·052	·088	93·14	2·74	4,399	8,358	Slight.	Free.	Free.
		Series ii...	17,479	44·28	5·13	49·41	None.	57·00	1·0791	2·03	·060	·070	93·98	2·96	5,239	10,635	Slight.	Free.	Free.
		Mean...	...	41·50	5·10	46·60	...	...	...	1·97	...	...	93·56	...	...	9,497			
B. H. 10 (12) ...	...	Series i...	14,634	33·91	7·03	40·94	1·98	59·00	1·0791	2·01	·068	·082	93·06	3·38	4,153	8,348	Slight.	Free.	Free.
		Series ii...	16,027	38·32	5·75	44·07	None.	52·00	1·0817	2·09	·051	·089	93·72	2·44	4,126	8,623	Slight.	Free.	Free.
		Mean...	...	36·12	6·39	42·51	...	...	...	2·05	...	...	93·39	...	...	8,486			

TABLE XXXIII.—WALKERS PLANTATION—BOOTMAN FIELD.

SELECTED VARIETIES.

1st Ratoons.

1920—1922

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Sp. Gr. 30° C. / 16·6° C.	Normal Juice.					Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
									Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diapreps abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
			Canes.	Tops.	Produce.				Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	Series i...	19,453	21·15	4·28	25·43	4·78	57·00	1·0676	1·53	·043	·287	82·26	2·81	2,530	3,871	Bad.	Free.	Free.
	Series ii...	15,040	21·52	5·83	27·35	None.	57·00	1·0782	1·84	·119	·181	85·98	6·47	2,548	4,688	Bad.	Free.	Free.
	Mean...	...	21·34	5·05	26·39	...	...	...	1·69	...	...	84·12	...	...	4,280	...	...	...
B. 6450	Series i ..	18,118	17·94	4·28	22·22	None.	59·00	1·0835	2·00	·049	·231	87·72	2·45	2,188	4,376	Slight.	Free.	Free.
	Series ii ..	27,656	24·94	7·05	31·99	None.	59·00	1·0729	1·70	·083	·217	85·00	4·88	3,072	5,222	Moderate.	Free.	Free.
	Mean..	...	21·44	5·67	27·11	...	...	...	1·85	...	...	86·36	...	...	4,799	...	...	...
Ba. 6032	Series i. .	20,963	28·62	3·78	32·40	3·04	61·00	1·0747	1·76	·068	·212	86·27	3·86	3,638	6,403	Slight.	Free.	Free.
	Series ii ..	11,633	19·29	3·58	22·87	None.	59·00	1·0703	1·66	·057	·213	86·01	3·43	2,382	3,954	Slight.	Free.	Free.
	Mean...	...	23·96	3·68	27·64	...	...	...	1·71	..	...	86·14	...	...	5,179	..	...	...
Ba. 7924	Series i...	24,478	23·66	2·36	26·32	None.	57·00	1·0756	1·81	·057	·203	87·44	3·15	2,808	5,082	Slight.	Free.	Free.
	Series ii...	22,487	18·10	4·03	22·13	None.	55·00	1·0756	1·80	·063	·207	86·96	3·50	2,073	3,731	Moderate.	Free.	Free.
	Mean...	...	20·88	3·35	24·23	...	...	...	1·81	...	...	87·20	...	...	4,407	...	...	...
Ba. 11569	Series i...	28,512	31·84	7·00	38·84	None.	62·00	1·0853	2·11	·049	·161	90·95	2·32	4,075	8,598	Slight.	Free.	Free.
	Series ii...	19,337	27·95	4·56	32·51	1·20	57·00	1·0835	1·98	·068	·232	86·84	3·43	3,293	6,520	Slight.	Free.	Free.
	Mean...	...	29·90	5·78	35·68	...	...	...	2·05	...	...	88·90	...	...	7,559	...	...	...
B.H. 10 (12)	Series i...	20,207	19·60	4·67	24·27	None.	56·00	1·0861	2·05	·076	·224	87·23	3·71	2,263	4,639	Slight.	Free.	Free.
	Series ii .	15,330	14·41	2·90	17·31	None.	59·00	1·0876	2·11	·059	·210	89·03	2·37	1,752	3,697	Slight.	Free.	Free.
	Mean...	...	17·01	3·78	20·79	...	...	...	2·08	...	...	88·13	...	...	4,168	...	...	...
B.S.F. 12 (27)	Series i...	22,413	20·63	2·09	22·72	3·11	59·00	1·0756	1·75	·074	246	84·54	4 23	2,535	4,436	Slight.	Free.	Free.
	Series ii...	21,550	20·91	2·76	23 67	None.	57·00	1·0773	1·76	·068	282	83·41	3·86	2,478	4,361	Slight.	Free.	Free.
	Mean...	...	20·77	2 43	23·20	...	...	...	1·76	...	...	83·98	...	..	4,399	..	...	...
Haw. 146	Series i...	18,437	27·54	3·56	31·10	None.	61·00	1·0773	1·82	·066	·224	86·26	3 63	3,493	6,357	Slight.	D.a.	Free.
	Series ii...	16,608	20·17	2·18	22·35	None.	59·00	1·0712	1·65	·119	·181	81·62	7·21	2,488	4,106	Slight.	Free.	Free.
	Mean...	...	23·86	2·87	26·73	...	...	...	1·74	...	...	85·44	...	...	5,231	...	...	...

TABLE XXXIV.—CLIFTON HALL PLANTATION—SACKEV HILL FIELD.

1st Ratoons. 1920-1922.

Name or No. of cane.			No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
				Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·0° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
										Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	...	Series i..	21,776	25·85	7·96	33·81	6·40	61 00	1·0614	1·52	·109	·071	89·41	7·17	3,327	5,057	Bad.	Free.	Free.
		Series ii...	20,905	28·96	8·29	37·25	3·33	60·00	1·0676	1·56	·063	·237	83·87	4·04	3,645	5,686	Bad.	Free.	Free.
		Mean...	...	27·41	8·12	35·53	...	...	...	1·54	...	...	86·64	...	...	5,372			
B. 6450	... ...	Series i...	19,918	26·88	6·66	33·54	3·21	63·00	1·0658	1·60	·104	·106	88·40	6·50	3,560	5,696	Moderate.	Free.	Free.
		Series ii...	21,892	32·41	8·48	40·89	1·59	62·00	1·0640	1·48	·100	·190	83·62	6·76	4,230	6,260	Moderate.	Free.	Free.
		Mean ..	...	29·65	7·57	37·22	...	...	...	1·54	...	...	86·01	...	...	5,978			
Ba. 6032	... ...	Series i .	17,014	25·27	5·99	31·26	·68	60·50	1·0623	1·50	109	·111	87·21	7·27	3,225	4,838	Slight.	Free.	Free.
		Series ii...	12,775	21·15	4·56	25·71	None.	58·50	1·0703	1·72	·981	·129	89·12	4·71	2,590	4,455	Slight.	Free.	Free.
		Mean...	...	23·21	5·28	28·49	...	...	...	1·61	...	...	88·17	...	..	4,647			
Ba. 7924	... ...	Series i...	24,738	30·41	7·70	38·11	3·05	61·00	1·0694	1·71	·063	·127	90·00	3·68	3,885	6,644	Slight.	Free.	Free.
		Series ii...	19,744	29·27	5·83	35·10	·88	58·50	1·0684	1 65	071	·159	87·77	4·30	3,590	5,924	Moderate.	Free.	Free.
		Mean...	...	29·84	6·77	36·61	...	...	...	1·68	...	...	88·89	...	...	6,284			
Ba. 12079	... ...	Series i...	33,332	35·67	7·70	43·37	·87	56·00	1·0703	1·64	·100	·190	84·97	6·10	4,181	6,857	Slight.	Free.	Free.
		Series ii...	26,422	33·05	8·68	41·73	·66	57·50	1·0703	1·63	083	·217	84·46	5·09	3,978	6,484	Moderate.	Free.	Free.
		Mean...	...	34·36	8·19	42·55	...	...	...	1·64	...	...	84·72	...	...	6,671			
B. H. 10 (12) ...	...	Series i...	23,170	32·12	8·79	40·91	·50	60·50	1·0712	1·72	·119	·111	88·21	6·92	4,064	6,990	Slight.	Free.	Free.
		Series ii...	15,505	22·89	7·21	30·10	1·50	61·50	1·0640	1·47	·125	·175	83 05	8·50	2,964	4,357	Slight.	Free.	Free.
		Mean...	...	27·51	8·00	35·51	...	...	...	1·60	...	...	85·63	...	...	5,674			
B.S.F. 12 (24)...	...	Series i...	19,221	25·33	5·57	30·90	17·82	64·50	1·0623	1·47	125	·125	85·47	8·50	3,445	5,064	Slight.	Free.	Free.
		Series ii...	18,699	26·73	3·16	29·89	9·63	57·00	1·0694	1·60	·061	·239	84·21	3·81	3,191	5,106	Slight.	Free.	Free.
		Mean...	...	26·03	4 37	30 40	...	...	...	1·54	...	...	84·84	...	...	5,085			
B.S.F. 12 (27)...	...	Series i...	21,834	32·35	10 50	42·85	2·93	61·00	1·0632	1·59	·089	·061	91·38	5·60	4,158	6,611	Moderate.	Free.	Free.
		Series ii...	15,679	23·67	7·54	31·21	4·80	58·00	1·0663	1·53	·089	·221	83·15	5·82	2,884	4,413	Moderate.	Free.	Free.
		Mean...	...	28·01	9·02	37·03	...	...	...	1·56	...	...	87·27	...	...	5,512			

TABLE XXXV.—CLIFTON PLANTATION.—FOUR ACRE PARISH FIELD.—1ST RATOONS.

Plant Canes. 1920-1922.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. $\frac{30^{\circ}\ C.}{16{\cdot}6^{\circ}\ C.}$	Lb per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent ...	Series i...	18,582	24·01	6·77	30·78	None.	54·00	1·0721	1·75	·068	·152	88·83	3·89	2,708	4,739	Bad.	Free.	Free.
	Series ii..	22,415	25·04	4·54	29·58	2·07	53·50	1·0663	1·64	·081	·119	89·13	4·94	2,815	4,617	Bad.	Free.	Free.
	Mean .	...	24·53	5·65	30·18	...	...	...	1·70	...	...	88 98	...	...	4,678	..		
B. 6450	Series i...	18,350	27·48	7·54	35·02	None.	61·50	1·0703	1·67	·086	·174	86·53	5·15	3,537	5,907	Slight.	Free.	Free.
	Series ii...	17,808	20·34	5·62	25·96	None.	57·00	1·0721	1·72	·104	·146	87·31	6·05	2,422	4,166	Slight.	Free.	Free.
	Mean...	...	23·91	6.58	30·49	...	...	....	1·70	...	...	86·92	...	...	5,037	...		
Ba. 6032	Series i ..	17,479	31·50	7·03	38·53	None.	59·00	1·0649	1·55	·100	·140	86·59	6·45	3,909	6,059	Slight.	Free.	Free.
	Series ii...	14,866	23·02	4·51	27·53	None	59·00	1·0632	1·45	·125	·165	83.33	8·62	2,862	4,150	Slight.	Free.	Free.
	Mean...	..	27·26	5·77	33·03	...	...	...	1·50	...	...	84·96	...	...	5,105	...		
Ba. 7924	Series i ..	18,873	26·31	6·04	32·35	None.	54·00	1·0684	1·66	·050	·170	88·30	3·01	2,979	4,945	Slight.	Free.	Free.
	Series ii...	17,018	22·37	5·02	27·39	None.	55·00	1·0691	1·73	·083	·087	91·05	4·80	2,577	4,458	Slight.	Free.	Free.
	Mean...	..	24·34	5·53	29·87	..	...	...	1·70	...	...	89·68	...	...	4,702	...		
Ba. 11403	Series i ..	16,898	27·64	7·67	35·31	None.	55·00	1·0765	1·85	·074	·166	88·52	4·00	3,163	5,852	Slight.	Free.	Free.
	Series ii...	17,886	23·82	7·91	31·73	None.	56·00	1·0721	1·80	·083	·087	91·37	4·61	2,788	5,018	Slight.	Free.	Free.
	Mean...	...	25·73	7·79	33·52	...	...	...	1·83	...	...	89·95	...	...	5,435	...		
Ba. 11569	Series i...	24,331	34·09	6·53	40·62	1·90	55·00	1·0782	1·90	·081	·159	88·79	4·26	3,855	7,401	Slight.	Free.	Free.
	Series ii...	14,837	24·70	5·23	29·93	None.	56 00	1·0738	1·81	·083	·127	89·61	4·59	2,885	5,222	Slight.	Free.	Free.
	Mean...	...	29·40	5·88	35·28	...	....	...	1·86	...	...	89·20	...	...	6,312	...	...	...

TABLE XXXV.—*Concluded.*—CLIFTON PLANTATION:—FOUR ACRE PARISH FIELD.—1ST RATOONS.

Plant Canes.

1920—1922

Name or No. of cane.	No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
		Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
								Saccharose.	Glucose.	Solids not sugar.							
B.H. 10 (12) ... Series i...	20,905	36·14	7·40	43·54	None.	59·00	1.0817	2·01	·083	·137	90·14	4·13	4,415	8,874	Slight.	Free.	Free.
Series ii...	15,679	25·46	6·90	32·36	None.	57·00	1·0791	1·96	·050	·150	90·74	2·55	3,012	5,904	Slight.	Free.	Free.
Mean...	...	30·80	7·15	37·95	...	...	...	1·99	..	..	90·44	.	...	7,389	...	...	...
B. S. F. 12 (27) ... Series i ..	19,860	27·95	7·40	35·35	None.	56·50	1·0694	1·57	·125	·205	82·63	7·96	3,307	5,192	Slight.	Free.	Free.
Series ii...	22,415	27·74	8·17	35·91	None.	57·00	1·0684	1·59	·076	·214	84·58	4·78	3,315	5,271	Slight.	Free.	Free.
Mean...	...	27·85	7·78	35·63	...	...	...	1·58	..	...	83·61	...	...	5,232	...	...	...
B.N.H. $\frac{11\ (6)}{15\ (4)}$ Series i...	14,110	15·55	2·57	18·12	None.	53·00	1·0773	1·78	·125	·205	84·36	7 02	1,714	3,050	Slight.	Free.	Free.
Series ii...	17,187	16·33	3·16	19·49	None.	55·00	1·0773	1·88	·061	·169	89·10	3·24	1,868	3,512	Slight.	Free.	Free.
Mean...		15·94	2·87	18·81	...	...	...	1·83	...	...	86 73	...	...	3,281	...	...	...

TABLE XXXVI.—HENLEY PLANTATION.—NORTH GARDEN AND GOLDEN FIELD.

1st Ratoons. 1920-1922.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Lb. per gallon of Glucose.	Lb. per gallon of Solids not sugar.	Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent ...	Series i...	22,763	20·51	5·83	26·34	1·02	49·60	1·0658	1·64	·083	·087	90·61	5·06	2,112	3,464	Bad.	Free.	Free.
	Series ii...	19,453	18·06	7·65	25·71	5·37	56·00	1·0649	1·50	·125	·165	83·80	8·33	3,132	3,198	Bad.	Free.	Free.
	Mean...	...	19·29	6·74	26·03	..	...	...	1·57	...	...	87·21	..	...	3,331			
B. 3922	Series i...	16,269	21·31	8·62	29·93	1·59	50·00	1·0640	1·60	·063	·107	90·40	3·94	2,243	3,589	Moderate.	Free.	Free.
	Series ii...	16,840	22·81	6·09	28·90	7·58	57·50	1·0684	1·69	·063	·127	89·89	3·73	2,750	4,648	Moderate.	Free.	Free.
	Mean...	...	22·06	7·36	29·42	...	...	...	1·65	...	...	90·15	...	...	4,119			
B. 6450	Series i...	25,202	18·06	6·22	24·28	2·99	55·00	1·0649	1·52	·078	·192	84·92	5·13	2,093	3,181	Bad.	Free.	Free.
	Series ii ..	22,067	22·76	7·21	29·97	·79	60·00	1·0694	1·59	·119	·191	83·69	7·48	2,861	4,548	Slight.	Free.	Free.
	Mean...	...	20·41	6·72	27·13	...	...	...	1·56	...	...	84·31	..	...	3,865			
Ba. 2471	Series i..	25,377	20·09	5·49	25·58	·46	53·00	1·0640	1·43	·068	·272	80·79	4·76	2,242	3,206	Slight.	Free.	Free.
	Series ii .	27,641	16·82	4·85	21·67	1·68	47·50	1·0703	1·56	·093	·277	80·83	5·96	1,673	2,610	Moderate.	Free.	Free.
	Mean...	...	18·46	5·17	23·63	...	...	...	1·50	...	...	80·81	...	..	2,908			
Ba. 6032	Series i...	16,666	21·18	4·64	25·82	None.	53·50	1·0606	1·39	·050	·240	82·74	3·60	2,393	3,326	Slight.	Free.	Free.
	Series ii ..	20,150	28·57	5·83	34·40	·57	59·00	1·0663	1·57	·100	·170	85·33	6·37	3,541	5,559	Slight.	Free.	Free.
	Mean...	...	24·88	5·23	30·11	...	...	...	1·48	...	...	84·04	...	...	4,443			
Ba. 7924	Series i...	20,266	19·57	5·05	24·62	·57	53·00	1·0640	1·56	·086	·124	88·14	5·51	2,184	3,407	Moderate.	Free.	Free.
	Series ii...	14,982	18·72	4·69	23 41	2·72	56·00	1·0694	1·65	·078	·172	86·84	4·73	2,196	3,623	Slight.	Free.	Free.
	Mean...	...	19·15	4·87	24·02	...	...	...	1·61	...	...	87·49	...	...	3,515			
Ba. 11569	Series i...	15,330	15·48	5·31	20·79	3·79	51·00	1·0649	1·60	·081	·109	89·39	5·06	1,660	2,656	Moderate.	Free.	Free.
	Series ii...	15,142	17·98	4·93	22·91	None.	55·00	1·0765	1·85	·083	·157	88·52	4·49	2,057	3,805	Slight.	Free.	Free.
	Mean...	...	16·73	5·12	21·85	...	...	...	1·73	...	...	88·96	...	...	3,231			

TABLE XXXVI.—*Concluded.*—HENLEY PLANTATION:—NORTH GARDEN AND GOLDEN FIELD.

1st Ratoons.

1920—'922.

Name or No. of cane.	No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
		Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of: Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.				*Diapreps abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
B. H. 10 (12) ... ... Series i...	16,027	8·43	6·25	14·68	4·35	52·00	1·0752	1·24	·051	·299	77·99	4·11	913	1,132	Bad.	Free.	Free.
Series ii...	21,507	28·74	8·85	37·59	1·25	55·50	1·0765	1·83	·069	·191	87·56	3·77	3,320	6,076	Slight.	Free.	Free.
Mean...	...	18·59	7·55	26·14	...	...	...	1·54	...	...	82·78	...	...	3,604			
B. S. F. 12 (24) ... Series i...	23,460	19·65	3·81	23·46	2·97	52·50	1·0606	1·44	·081	·159	85·71	5·63	2,179	3,138	Slight.	Free.	Free.
Series ii...	20,034	23·25	7·44	30·69	5·51	57·50	1·0649	1·54	·125	·125	86·03	8·12	2,812	4,330	Moderate.	Free.	Free.
Mean...	...	21·45	5·63	27·08	...	...	...	1·49	...	...	85·87	...	...	3,734			
B. S. F. 12 (27) ... Series i...	17,595	14·49	6·92	21·41	1·65	55·00	1·0597	1·39	·093	·167	84·24	6·69	1,685	2,342	Slight.	Free.	Free.
Series ii ..	19,395	21·65	5·31	26·96	2·99	55·00	1·0663	1·52	·125	·195	82·61	8·22	2,501	3,802	Moderate.	Free.	Free.
Mean...	...	18·07	6·12	24·19	...	...	...	1·46	...	...	83·43	...	...	3,072			

SELECTED VARIETIES.

TABLE XXXVII.—LEMON ARBOR PLANTATION—PLUM TREE FIELD.

1st Ratoons.

1920—1923

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Sp. Gr. 30° C. / 16·6° C.	Normal Juice.					Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
									Lb. per gallon of			Quotient of purity.	Glucose ratio.					
			Canes.	Tops.	Produce.				Saccharose.	Glucose.	Solids not sugar.						*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent	...	Series i...	19,860	27·50	6·87	34·37	9·36	55·00	1·0658	1·67	·069	·071	92·27	4·13	3,179	5,309	Bad.	Free.	Free.
		Series ii...	18,408	27·92	8·45	36·37	5·99	56·00	1·0712	1·70	·125	·125	87·18	7·35	3,269	5,557	Bad.	Free.	Free.
		Mean...	...	27·71	7·66	35·37	...	...	...	1·69	...	...	89·73	...	...	5,433	...	...	...
B. 6450	...	Series i ..	20,395	27·90	5·93	33·83	3·20	60·00	1·0694	1·70	·083	·117	89·48	4·88	3,506	5,960	Slight.	Free.	Free.
		Series ii ..	22,182	32·01	6·01	38·02	None.	57·00	1·0703	1·64	·076	·214	84·97	4·63	3,819	6,263	Slight.	Free.	Free.
		Mean...	...	29·96	5·97	35·93	...	...	...	1·67	...	...	87·23	...	...	6,112	...	...	...
Ba. 6032	...	Series i...	21,312	38·68	5·76	44·44	None.	59·00	1·0676	1·70	·063	·097	91·40	3·71	4,788	8,140	Slight.	Free.	Free.
		Series ii ..	16,388	29·78	5·42	35·20	None.	56·50	1·0676	1·61	·125	·125	86·56	7·76	3,531	5,685	Slight.	Free.	Free.
		Mean...	...	34·23	5·59	39·82	...	...	...	1·66	..	...	88·98	...	...	6,912	..	...	...
Ba. 7924	...	Series i...	26,596	30·43	5·88	36·31	None.	59·00	1·0703	1·78	·061	·089	92·23	3·43	3,758	6,689	Slight.	Free.	Free.
		Series ii...	21,370	27·71	7·28	34·99	None.	54·50	1·0694	1·70	·083	·117	89·48	4·88	3,163	5,377	Moderate.	Free.	Free.
		Mean...	...	29·07	6·58	35·65	...	...	...	1·74	...	...	90·86	...	...	6,033	...	...	...
Bu. 11569	...	Series i...	17,595	33·08	5·73	38·81	None.	56·00	1·0694	1·73	·083	·087	91·05	4·80	3,880	6,712	Slight.	Free.	Free.
		Series ii...	20,673	32·69	7·36	40·05	4·49	54·00	1·0747	1·82	·063	·157	89·22	3·46	3,679	6,696	Slight.	Free.	Free.
		Mean...	...	32·89	6·54	39·43	...	...	...	1·78	...	...	90·14	...	...	6,704	...	...	...
B.H. 10 (12)	...	Series i...	21,312	35·52	6·87	42·39	None.	61·00	1·0756	1·90	·063	·107	91·79	3·32	4,512	8,573	Slight.	Free	Free.
		Series ii...	21,660	36·45	8·84	45·29	1·34	58·50	1·0773	1·94	·078	·092	91·94	4·02	4,434	8,602	Slight.	Free.	Free.
		Mean...	...	35·99	7·85	43·84	...	...	...	1·92	...	...	91·87	...	...	8,588	...	...	...
B.S.F. 12 (27)	...	Series i...	23,460	31·52	10·24	41·76	None.	54·50	1·0747	1·77	·081	·189	86·76	4·58	3,581	6,338	Slight.	Free.	Free.
		Series ii...	17,835	25·56	6·61	32·17	None.	56·50	1·0703	1·69	·083	·157	87·57	4·91	3,023	5,109	Slight.	Free.	Free.
		Mean...	...	28·54	8·43	36·97	...	...	...	1·73	...	...	87·17	...	...	5,724	..	...	...

SELECTED VARIETIES.

TABLE XXXVIII.—CLIFTON HALL PLANTATION—CALF FIELD.

2nd Ratoons. 1920-1922.

Name or No. of cane.		No. of canes per acre.	Weight in tons per acre.			Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests.	
			Canes.	Tops.	Produce.			Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.				*Diapreppes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent ...	Series i...	21,312	30·51	11·07	41·58	2·72	58·00	1·0721	1·77	·081	·119	89·85	4·58	3,698	6,545	Bad.	Free.	Free.
	Series ii...	22,241	30·56	10·65	41·21	2·61	58·50	1·0721	1·73	·093	·147	87·82	5·38	3,736	6,463	Bad.	Free.	Free.
	Mean...	...	30·54	10·86	41·40	...	...	...	1·75	...	...	88·84	...	...	6,504			
B. 3922	Series i...	22,009	30·72	10·14	40·86	16·36	59·50	1·0694	1·73	·053	·117	91·05	3·06	3,829	6,624	Moderate.	Free.	Free.
	Series ii...	22,705	35·18	8·58	43·76	14·32	61·50	1·0721	1·75	·063	·157	88·83	3·60	4,521	7,912	Slight.	Free.	Free.
	Mean ...	...	32·95	9·36	42·31	...	...	...	1·74	...	...	88·94	...	...	7,268			
B. 6450	Series i...	23,170	32·22	8·32	40·54	2·76	61·00	1·0694	1·70	·069	·131	89·48	4·06	4,117	6,999	Moderate.	Free.	Free.
	Series ii...	27,177	38·96	11·12	50·08	2·56	63·00	1·0676	1·57	·083	·207	84·41	5·29	5,150	8,086	Moderate.	Free.	Free.
	Mean...	...	35·59	9·72	45·31	...	...	...	1·64	...	...	86·95	...	...	7,543			
Ba. 6032	Series i...	18,698	28·17	5·10	33·27	2·17	63·00	1·0606	1·38	·125	·175	82·14	9·06	3,749	5,174	Slight.	Free.	Free.
	Series ii...	15,563	28·70	7·96	36·66	1·12	60·00	1·0684	1·62	·076	·184	86·17	4·69	3,610	5,848	Slight.	Free.	Free.
	Mean...	...	28·44	6·53	34·97	...	...	...	1·50	...	...	84·16	...	...	5,511			
Ba. 7924	Series i...	22,880	33·31	8·68	41·99	3·29	63·00	1·0729	1·84	·041	·119	92·00	2·23	4,382	8,063	Moderate.	Free.	Free.
	Series ii...	26,596	36·66	10·16	46·82	None.	65·00	1·0729	1·80	·058	·132	90·00	3·78	4,975	8,955	Moderate.	Free.	Free.
	Mean...	...	34·99	9·42	44·41	...	...	...	1·82	...	...	91·00	...	...	8,509			
B. 12079	Series i...	29,209	34·84	8·89	43·73	·79	58·00	1·0738	1·70	·054	·266	84·16	3·18	4,216	7,167	Slight.	Free.	Free.
	Series ii...	31,590	39·22	11·51	50·73	None.	57·00	1·0703	1·65	·125	·155	85·49	7·58	4,679	7,720	Slight.	Free.	Free.
	Mean...	...	37·03	10·20	47·23	...	...	...	1·68	...	...	84·83	...	...	7,444			
B.H. 10 (12)	Series i...	19,395	31·29	9·36	40·65	·90	59·50	1·0809	1·91	·071	·229	86·43	3·72	3,858	7,369	Slight.	Free.	Free.
	Series ii...	21,079	30·98	7·80	38·78	·83	62·00	1·0782	1·93	·104	·106	90·19	5·39	3,990	7,701	Slight.	Free.	Free.
	Mean...	...	31·14	8·58	39·72	...	...	...	1·92	...	...	88·31	...	...	7,535			
B.S.F. 12 (24)... ...	Series i...	22,271	28·80	6·36	35·16	10·34	63·00	1·0694	1·65	·069	·181	86·34	4·18	3,798	6,267	Slight.	Free.	Free.
	Series ii...	20,150	30·98	6·14	37·12	11·24	64·50	1·0684	1·67	·083	·127	88·83	4·97	4,189	6,996	Slight.	Free.	Free.
	Mean...	...	29·89	6·25	36·14	...	...	...	1·66	...	...	87·84	...	...	6,632			

TABLE XXXIX.—DODDS PLANTATION.—WELL FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Insect pests per acre. *Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
W. Transparent	14,459	25·33	7·62	58·00	1·0712	1·76	·063	·127	90·26	3·58	3,072	5,407	Moderate.	1,045	581	1,626
*Bourbon	15,678	14·00	26·67	58·00	1·0640	1·55	·083	·137	87·57	5·35	1,709	2,649	Bad.	697	...	697
B. 67	18,989	28·26	·92	61·00	1·0756	1·85	·074	·146	89 37	4·00	3,590	6,642	Moderate.	290	348	638
B. 117	15,621	23·38	1·12	55·00	1·0835	2·09	·061	·129	91·67	2·92	2,659	5,557	Slight.	116	406	522
B. 119	16,305	20·06	None.	55·00	1·0782	1·94	·050	·150	90·66	2·58	2,293	4,448	Slight.	766	976	1,742
B. 154	17,827	25·59	None.	49·50	1·0747	1·90	·056	·084	93·14	2·95	2,640	5,016	Slight.	405	755	1,161
B. 163	22,299	30·10	1·56	53·00	1·0694	1·70	·109	·091	89·48	6·41	3,341	5,680	Moderate.	232	523	755
B. 164	27,874	26·62	1·46	54·50	1·0765	1·95	·050	·090	93.30	2·56	3,019	5,887	Slight.	639	348	987
B. 376	19,512	24·96	4·46	54·50	1·0729	1·80	·058	·142	90·00	3·22	2,841	5,114	Bad.	174	...	174
B. 6308	17,131	27·79	None.	59·00	1·0663	1·60	·114	·126	86·96	7·12	3,444	5.510	Slight.	581	813	1,394
B. 6450	18,408	22·40	3·15	56·50	1·0712	1·75	·089	·111	89·75	5·09	2,646	4,630	Moderate.	1,510	1,219	2,729
B. 7169	21,642	20·85	5·88	57·50	1·0729	1·85	·078	·072	92·50	4·22	2.503	4,631	Bad.	268	201	469
Ba. 2471	26,687	28·65	1·83	50·00	1·0773	1·92	·064	·126	91·00	3·33	2,978	5,718	Moderate.	279	70	349
Ba. 6032	18,350	26·86	1 58	57·00	1·0694	1·67	·081	·149	87·90	4·85	3,207	5,356	Slight.	639	639	1,278
Ba. 7924	22,531	28·31	·77	56·50	1·0747	1·80	·051	·189	88·24	2·83	3,334	6,002	Slight.	174	523	697
Ba. 8409	27,808	25·47	1·56	53·50	1·0738	1·88	·054	·086	93·07	2·87	2,842	5,343	Moderate.	119	435	554
Ba. 8846	19,337	23·41	None.	56·00	1·0773	1·94	·054	·116	91·94	2·78	2,726	5,288	Slight.	581	871	1.452
Ba. 11403	19,105	22·48	2·12	53·50	1·0773	1·98	·056	·074	93·84	2 83	2,500	4,950	Moderate.	639	523	1,162

*Colletotrichum falcatum.

TABLE XXXIX.—*Concluded.*—DODDS PLANTATION:—WELL FIELD.

Plant Canes.

1920—1922

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Insect pests per acre.		
					Sp. Gr. $\frac{30°\ C.}{16·6°\ C.}$	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diapreples abbreviatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
						Saccharose.	Glucose.	Solids not sugar.								
Ba. 11569	21,950	30·49	·79	54·00	1.0809	2·02	·109	·081	91·40	5·40	3,412	6,892	Slight.	348	116	464
B.H. 10 (12)	19,918	27·66	None.	58·00	1·0853	2·18	·050	·090	93·97	2·20	3,312	7,220	Slight.	348	987	1,335
B.S.F. 12 (27)	21,239	24·95	1·89	57·00	1 0738	1·76	·083	·177	87·13	4·72	2,966	5,220	Slight.	134	603	737
B.S.F. 12 (45)	28,222	19·99	17·90	52·00	1·0694	1·70	·083	·117	89·48	4 88	2,177	3,701	Bad.	406	174	580
B.S.F. 12 (48)	23,286	26·26	1·24	57·00	1·0800	1·96	·086	·134	89·91	4·39	3,105	6,086	Slight.	580	987	1,567
B.S.F. 12 (53)	17,653	25·77	6·58	60·50	1·0676	1·67	·104	·086	89·79	6·23	3,271	5,463	Moderate.	174	58	232

TABLE XL.—DODDS PLANTATION :—LOWER CHAPEL FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30°C./16·6°C.	Normal Juice. Lb. per gallon of Saccharose.	Normal Juice. Lb. per gallon of Glucose.	Normal Juice. Lb. per gallon of Solids not sugar.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Insect pests per acre. *Diaprepes abbreviatus*, Linn.	Insect pests per acre. *Phytalus smithi*, Arrow.	Insect pests per acre. Total.
W. Transparent	15,505	23·20	2·62	53·00	1·0791	1·93	·036	·164	89·35	3·42	2,553	4,927	Bad.	...	581	581
B. H. 10 (12)	18,815	26·49	None.	56·00	1·0853	2·07	·062	·198	89·22	2·51	3,062	6,338	Slight.	523	581	1,104
B. 18	19,918	24·52	1·46	53·00	1·0800	2·04	·064	·076	93·58	3·14	2,696	5,500	Moderate.	58	639	697
B. 39	21.078	26·52	2·48	53·00	1·0870	2·18	·051	·139	91·98	2·34	2,895	6,311	Slight.	1,219	2,961	4,180
B. 82	22,040	19·92	3·09	50·50	1·0684	1·70	·085	·094	90·43	5·06	2,108	3,584	Slight.	227	606	833
B. 85	22,763	24·21	1·28	50·50	1·0791	1·96	·069	·131	90·74	3·52	2,538	4,974	Slight.	755	987	1,742
B. 381	22,705	30·07	2·56	56·00	1·0658	1·58	·109	·121	87·29	6·90	3,539	5,591	Slight.	1,916	697	2.613
B. 384	18,292	19·65	1·59	50·00	1·0782	1·98	·076	·084	92·53	3·84	2,041	4,041	Moderate.	1,161	813	1,974
B. 389	20,646	23·07	4·05	56·00	1·0676	1·65	·096	·114	88·71	5·82	2,711	4,473	Moderate.	...	...	...
B. 391	36,352	29·40	·96	55·50	1·0800	1·98	·068	·132	90·83	3·43	3,384	6,700	Slight.	2,690	348	2,438
B. 392	20,976	16·75	7·61	54·00	1·0729	1·81	·125	·065	90·50	6·91	1,888	3,417	Bad.	1,306	871	2,177
Ba. 12079	29,093	29·99	1·39	55·00	1·0817	2·11	·069	·051	94·62	3·27	3,416	7,208	Slight.	639	813	1,452
B.S.F. 12 (50)	29,674	32·90	·78	58·00	1·0756	1·91	·096	·064	92·26	5·03	3,974	7,590	Slight.	581	1,103	1,684
B.S.F. 13 (8)	22,170	30·51	3·26	56·00	1·0694	1·60	·147	·153	84·21	9·19	3,579	5 726	Slight.	348	1,394	1,742
B.S.F. 13 (14)	20,615	27·87	·85	53·00	1·0663	1·44	·192	·208	78·26	13·33	3,103	4,468	Slight.	987	755	1,742

TABLE XLI.—SUMMERVALE PLANTATION.— UPPER BOURNE FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per, acre.	Prevalence of Marasmius sacchari, Wakker.	Insect pests per acre. *Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
W Transparent	15,621	17·50	11·53	56·00	1·0614	1·43	·132	·138	84·12	9·23	2,068	2,957	Bad.	1,161	465	1,626
B. H. 10 (12)	18,640	28·41	·31	57·00	1·0782	1·97	·083	·087	92·06	4·21	3,365	6,629	Slight.	232	232	464
B. 368	16,659	25·42	None.	59·00	1·0721	1·72	·125	·125	87·31	7·27	3,134	5,390	Slight.	436	218	654
B. 369	19,054	28·63	2·86	54·50	1·0663	1·52	·132	·188	82·61	8·68	3,278	4,983	Slight.	109	436	545
B. 375	16,550	22·76	1·75	50·50	1·0729	1·74	·125	·135	87·00	7·18	2,400	4,176	Slight.	348	348	696
Ba. 8192	16,724	28·39	None.	57·00	1·0712	1·65	·125	·175	84·62	7·58	3,384	5,584	Moderate.	639	581	1,220
Ba. 12673	24,854	22·22	None.	54·50	1·0623	1·42	·192	·108	82·56	13·52	2,553	3,625	Slight.	465	755	1,220
B. N. H. 16 (13)	20,904	29·71	·67	55·00	1·0765	1·82	·139	·131	87·08	7·64	3,400	6,188	Slight.	766	627	1,393
S. C. $\frac{12}{4}$	15,621	22·32	1·12	52·50	1·0773	1·88	·125	·105	89·10	6·65	2,437	4,582	Slight.	174	232	406

TABLE XLII.—SUMMERVALE PLANTATION—SOUTH WHITLEY FIELD.

Plant Canes.

1920-1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Insect pests per acre. *Diapreepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
W. Transparent	16,376	22·19	3·19	54·00	1·0649	1·42	·192	·178	79·33	13·52	2,521	3,580	Bad.	...	3,252	3,252
B.H. 10 (12)	18,176	26·44	1·28	56·00	1·0773	1·80	·132	·178	85·31	7 33	3,079	5,542	Slight.	290	2,555	2,845
Uba.	29,035	16·59	1·80	43·00	1·0663	1·20	·125	·515	65·22	10·42	1,499	1,799	Slight.	465	755	1,220
B. N. H. 11 (6) / 15 (4)	16,492	20·40	3·87	58·00	1·0782	1·77	·132	·238	82·71	7·46	2,458	4,351	Slight.	...	1,219	1,219
B.N.H. 11 (6) / 15 (2)	17,247	22·94	4·71	58·00	1·0703	1·64	·132	158	84·97	8·05	2,785	4,567	Moderate.	...	813	813
B. 2001	18,195	19·59	5·6	56·50	1·0676	1·58	·250	·030	84·95	15·82	2,322	3,669	Slight.	...	387	387
B. 169	15,098	23·72	None.	55·00	1·0658	1·50	·139	·171	82·87	9·27	2,742	4,113	Slight.	...	1,452	1,452
Ba. 177	15,795	22·40	·74	53·50	1·0712	1·72	·139	·091	88·21	8·08	2,509	4,315	Moderate.	...	697	697
Ba. 204	22,066	25·78	20 05	56·50	1·0676	1·47	·250	·140	79·03	17·01	3,056	4,492	Moderate.	...	452	452
B. 237	17,979	24·88	1·38	54·00	1·0738	1·69	·125	·205	83·66	7·40	2,803	4,737	Slight.	...	1,617	1,617
B. 240	22,067	23·77	·79	57·00	1·0721	1·70	·114	·156	86·29	6·71	2,831	4,813	Slight.	58	1,278	1,336
B. 241	25,594	22·40	2·62	47·50	1·0623	1·36	·125	·235	79·07	9·19	2,247	3,056	Moderate.	...	2,010	2,010
B. 252	17,189	22·09	1·69	49·00	1·0694	1·54	·119	·191	83·69	7·48	2,267	3,491	Moderate.	116	1,161	1,277
B. 253	20,208	23·72	1·15	57·00	1·0632	1·39	·119	·231	79·38	8·56	2,847	3,957	Moderate.	58	929	987
B. 275	20,092	21·39	1·73	61·00	1·0623	1·51	·125	·085	87·79	8·28	2,751	4,154	Moderate.	58	871	929

TABLE XLIII.—SUMMERVALE PLANTATION—LOWER GARDEN FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Insect pests per acre.		
					Sp. Gr. $\frac{30^{\circ}\ C.}{16^{\circ}6^{\circ}C.}$	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
						Saccharose.	Glucose.	Solids not sugar.								
W. Transparent	16,699	21·08	3·60	50·00	1·0676	1·65	·119	·091	88·71	7·21	2,211	3,648	Bad.	...	180	180
B. H. 10 (12)	16,376	21·98	1·06	56·00	1·0800	1·93	·119	·071	91·28	5·98	2,553	5,080	Slight.	784	523	1,307
B. 298	18,178	19·78	None.	49·00	1·0694	1·69	·114	·096	88·95	6·75	2,030	3,431	Moderate.	76	530	606
B. 301	14,053	13·61	2·06	50·50	1·0658	1·49	·179	·141	82·32	12·01	1,445	2,153	Bad.	174	639	813
B. 312	22,009	22·17	1·06	51·50	1·0738	1·83	·086	·104	90·59	4·70	2,381	4,357	Bad.	...	174	174
B. 313	13,820	15·17	·84	53·00	1·0687	1·65	·119	·111	87·77	7·21	1,685	2,780	Moderate.	523	348	871
B. 321	20,406	16·85	None.	53·50	1·0747	1·79	·100	·150	87·75	5·59	1,879	3,363	Slight.	...	166	166
B. 322	16,673	18·33	None.	47·00	1·0640	1·47	·139	·161	83·05	9·46	1,814	2,667	Moderate.	83	332	415
B. 327	17,182	18·20	·92	48·00	1·0703	1·72	·139	·071	89·12	8·08	1,829	3,146	Moderate.	238	1,425	1,663
B. 329	11,788	18·20	1·48	51·50	1·0703	1·73	·125	·075	89·64	7·23	1,962	3,394	V. Slight.	348	557	905
B. 333	17,827	18·79	2·61	51·50	1·0835	2·01	·114	·156	88·16	5·67	2,601	4,022	Slight.	348	116	464
B. 335	18,002	23·95	None.	56·00	1·0826	2·07	·132	·048	92·00	6·38	2,776	5,746	Slight.	465	523	988
B. 336	16,318	22·05	·71	58·50	1·0782	1·92	·083	·137	89·72	4·32	2,681	5,148	Slight.	232	406	638
B. 343	14,582	14·03	1·33	51·00	1·0738	1·80	·132	·088	89·11	7·33	1,492	2,686	Bad.	194	452	646

TABLE XLIV ——DODDS PLANTATION :—MILL FIELD.

Plant Canes.

1920—1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Insect pests per acre.		
					Sp. Gr. 30° C./16·6° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diapreyes abbreviatus*, Linn	*Phytalus smithi*, Arrow.	Total.
						Saccharose.	Glucose.	Solids not sugar.								
W Transparent	15,911	19·73	3·65	52·00	1·0809	1·98	·114	·116	89·59	5·76	2,126	4,209	Bad.	1,161	581	1,742
B. H. 10 (12)	18,350	24·50	·32	55·50	1·0844	2·21	·083	·007	96·09	3·76	2,809	6,205	Slight.	232	581	813
B. 394	14,259	19·79	1·36	60·00	1·0729	1·67	·156	·174	83·50	9·34	2,479	4,140	Moderate.	968	774	1,742
B. 395	23,982	12·88	1·69	56·50	1·0791	1·92	·139	·101	88·89	7·24	1,511	2,901	Very Bad.	1,103	290	1,393
B 396	22,994	20·31	1·82	53 50	1·0826	2·07	·066	·114	92·00	3·19	2,248	4,653	Slight.	1,463	1,115	2,578
B. 397	27,321	22·63	2·01	51·50	1·0870	2·30	·051	·019	97·05	2·22	2,402	5,525	Slight.	1,100	642	1,742
B. 398	19,163	22·55	1·82	51·00	1·0855	2·19	·053	·077	94·40	2·42	2,374	5,199	V. Slight.	116	232	348
B. 404	11,664	15·15	11·69	55·50	1·0835	2·18	·093	·007	95·62	4·27	1,738	3,789	V. Slight.	1,287	303	1,590
B. 405	16,026	28·97	1·08	58·50	1·0800	2·00	·083	·097	91·74	4·15	3,515	7,030	V. Slight.	436	261	697
B. 407	16,673	19·26	8·46	53·50	1·0844	2·12	·063	·117	92·17	2·97	2,128	4,511	Slight.	498	82	580
B. 409	17,769	19·81	1·63	61·00	1·0861	2·27	·050	·030	96 60	2·20	2,492	5,057	Moderate.	755	639	1,394
B. 410	16,166	21·53	None.	52·50	1·0853	1·91	·053	·357	82·33	2·77	2,333	4,456	Slight.	836	348	1,184
B. 411	17,479	16·10	11·30	51·50	1·0782	1·98	·056	·104	92·53	2 82	1,722	3,410	Slight.	697	523	1,220

TABLE XLV.—DODDS PLANTATION—PILGRIM FIELD.

Plant Canes.

1920—1922

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Sp. Gr. $\frac{30^{\circ}\ C.}{16{\cdot}6^{\circ}\ C.}$	Normal Juice. Lb. per gallon of: Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Insect pests per acre. *Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
W. Transparent	17,537	22·94	6·29	55·00	1·0738	1·78	·194	·136	88·12	5·84	2,632	4,685	Bad.	348	232	580
B. H. 10 (12)	12,369	25·07	2·82	51·00	1·0853	2·10	·119	·101	90·52	5·67	2,639	5,542	Slight.	871	755	1,626
B. 284	18,958	23·42	None.	50·00	1·0879	2·18	·083	·127	91·21	3·81	2,308	5,031	Moderate.	...	1·537	1,537
B. 417	14,711	24·43	None.	52·00	1·0773	1·90	·096	·114	90·05	5·05	2,641	5,018	Moderate.	839	1,161	2,000
B. 418	21,283	26·88	1 42	49·50	1·0703	1·66	·132	·138	86·01	7·95	2,785	4,623	Moderate.	309	907	1,216
B. 425	19,395	27·74	4·49	49·50	1·0809	2·03	·076	·104	91·86	3·74	2,845	5,775	Slight.	232	406	683

TABLE XLVI.—DODDS PLANTATION.—UPPER PADMORE FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Normal Juice. Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Normal Juice. Lb. per gallon of Saccharose.	Normal Juice. Lb. per gallon of Glucose.	Normal Juice. Lb. per gallon of Solids not sugar.	Normal Juice. Quotient of purity.	Normal Juice. Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Insect pests per acre. *Diopsepes abbreviatus*, Linn.	Insect pests per acre. *Phytalus smithi*, Arrow.	Insect pests per acre. Total.
W. Transparent	17,300	24·22	3·82	57·00	1·0738	1·78	·089	·151	88·12	5·00	2,879	5,124	Bad.	721	300	1,021
B. H. 10 (12)	18,989	25·25	None.	57·50	1·0835	2·06	·069	·151	90·35	3·35	3,002	6,184	Slight.	290	116	406
B. 432	24,679	25·40	None.	52·50	1·0855	2·12	·066	·094	92·98	3·11	2,757	5,845	Slight.	580	...	580
B. 434	15,952	20·26	None.	51·50	1·0853	2·20	·063	·057	94·85	2·86	2,153	4,737	Moderate.	..	...	...
B. 435	18,321	21·99	None.	52·50	1·0712	1·72	·109	·121	88·21	6·34	2,414	4,152	Slight.	120	...	120
B. 438	20,084	23·98	None.	53·00	1·0729	1·76	·109	·131	88·00	6·19	2,654	4,671	Moderate.	754	523	1,277
B. 439	18,686	22·27	None.	55·00	1·0800	2·03	·069	·081	93·12	3·40	2,540	5,156	Slight.	1,425	...	1,425
B. 441	19,742	28·26	None.	53·50	1·0721	1·72	·132	·118	87·31	7·67	3,158	5,432	Moderate.	...	...	...
B. 443	17,614	19·23	None.	52·50	1·0800	1·90	·125	·155	87·16	6·58	2,094	3,970	V. Slight.	145	581	726
B. 445	26,130	27·50	None.	51·50	1·0809	1·78	·179	·251	80·54	10·06	2,936	5,226	Moderate.	1,617	373	2,990
B. 454	20,250	25·60	6·45	53·50	1·0773	1·84	·125	·145	87·21	6·79	2,847	5,238	Moderate.	435	...	435
B. 458	19,162	29·75	4·55	51·50	1·0712	1·67	·119	·161	85·64	7·13	3,203	5,349	V. Slight.	348	436	784
B. 459	22,996	25·02	12·12	51·00	1·0703	1·65	·192	·088	85·49	11·64	2,827	4,665	V. Slight.	406	290	696
B. 460	21,123	29·36	4·12	47·00	1·0756	1·77	·139	·161	85·51	7·85	2,874	5,087	Slight.	...	435	435
B. 461	19,620	23·33	1·40	55·00	1·0738	1·75	·104	·166	86·63	5·94	2,677	4,685	Slight.	367	458	825
B. 464	24,062	20·80	1·81	50·00	1·0782	1·81	·156	·174	84·58	8·62	2,161	3,911	Slight.	653	218	871
B. 465	23,226	28·88	2·14	53·50	1·0835	2·11	·078	·092	92·54	3·70	3,195	6,741	Slight.	1,078	664	1,742
B. 466	22,487	27·29	1·41	54·00	1·0835	2·06	·061	·159	90·35	2·96	3,046	6,275	Slight.	633	...	633

TABLE XLVI.—*Concluded*—DODDS PLANTATION :—UPPER PADMORE FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Insect pests per acre.		
					Sp. Gr. 30°C. / 16·6° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diagrepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.	Total.
						Saccharose.	Glucose.	Solids not sugar.								
B. 467	26,478	27·22	2·63	52·00	1·0844	2·01	·119	·171	87·39	5·92	2,952	5,934	Slight.	697	1,394	2,091
B. 468	23,693	28·34	·74	53·00	1·0870	2·17	·083	·117	91·56	3·82	3,095	6,716	Slight.	581	465	1,046
B. 469	24,680	28·88	·71	48·50	1·0861	2·15	·060	·140	91·49	2·79	2,889	6,211	Moderate.	348	174	522
B. 470	20,323	28·26	5·71	48·00	1·0861	2·14	·083	·127	91·06	3·88	2,797	5,986	Slight.	...	...	...
B. 471	26,676	23·57	3·27	45·50	1·0791	1·89	·081	·189	87·50	4·29	2,226	4,207	Slight.	871	436	1,307
B. 472	21,679	41·21	·89	52·00	1·0826	2·08	·063	·107	92·44	3·03	4,434	9,223	Slight.	774	1,355	2,129
B. 475	19,161	25·60	1·14	52·00	1·0835	2·00	·104	·181	87·72	5·20	2,752	5,504	Slight.	581	363	944
B. 476	27,292	30·94	2·84	54·50	1·0782	1·94	·125	·075	90·66	6·44	3,503	6,796	Slight.	194	774	968
B. 484	24,662	34·99	None.	55·50	1·0773	1·88	·064	·166	89·10	3·40	4,038	7,591	V. Slight.	550	550	1,100
B. 486	28,492	34·44	·44	56·00	1·0773	1·92	·093	·097	91·00	4·84	4,010	7,699	Slight.	747	809	1,556
B. 487	22,646	27·80	None.	59·00	1·0800	1·92	·058	2·02	88·07	3·02	3,402	6,532	Bad.	1,481	784	2,265
B. 488	22,329	29·13	2·13	51·50	1·0817	2·04	·064	·126	91·48	3·14	3,106	6,336	Moderate.	792	792	1,584
B. 489	18,815	27·64	None.	51·00	1·0756	1·83	·076	·184	87·56	4·15	2,935	5,371	V. Slight.	581	116	697
B. 490	22,130	27·97	None.	55·00	1·0756	1·80	·090	·174	86·96	5·33	3,203	5,765	Moderate.	839	710	1,549
B. 491	26,131	33·35	None.	50·00	1·0738	1·75	·125	·145	86·63	7·14	3,479	6,088	Slight.	968	516	1,484
B. 494	25,319	37·59	None.	52·00	1·0826	2·03	·125	·095	90·22	6·16	4,044	8,209	Moderate.	1,219	406	1,625
B. 499	26,770	33·13	None.	55·50	1·0773	1·88	·086	·144	89·10	4·57	3,823	7,187	Slight.	523	697	1,220
B. 502	27,262	34·61	None.	49·00	1·0773	1·83	·109	·171	86·73	5·96	3,526	6,453	Slight.	2,613	261	2,874

TABLE XLVII.—SUNBURY PLANTATION.—UPPER POND FIELD.

Plant Canes. 1920-1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests. *Diapreps abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W Transparent	12,825	16·35	7·56	57·00	1·0809	2·04	·050	·120	92·31	2·45	1,931	3,939	Bad.	D.a.	P.s.
B. 67	13,480	24·32	9·34	61·00	1·0791	1·96	·060	·140	90·74	3·06	3,080	6,037	Slight.	D.a.	P.s.
B. 6308	12,099	20·00	1·85	57·50	1·0712	1·73	·071	·149	88·72	4·10	2,405	4,161	Slight.	D.a.	Free.
B. 6450	8,902	17·75	None.	56·50	1·0791	1·94	·048	·172	89·82	2·47	2,081	4,037	Slight.	D.a.	P.s.
Ba. 6032	13,511	24·76	None.	60·00	1·0747	1·84	·063	·137	90·20	3·42	3,096	5,697	Slight.	D.a.	P.s.
Ba. 11224	12,825	23·98	3·14	54·50	1·0826	2·09	·087	·123	92·89	1·77	2,701	5,651	Slight.	D.a.	Free
Ba. 11403	14,035	18·69	None.	53·50	1·0861	2·15	·042	·158	91·49	1·95	2,061	4,431	Slight.	D.a.	Free.
Ba. 11569	13,148	23·55	2·76	57·06	1·0835	2·06	·083	·137	90·35	4·03	2,775	5,717	Slight.	Free.	P.s.
Ba. 12079	17,423	25·42	None.	57·00	1·0809	2·00	·086	·124	90·50	4·30	3,003	6,006	Slight.	D.a.	Free.
B.H. 10 (12)	15,204	23·17	4·24	57·00	1·0897	2·25	·042	·148	92·21	1·87	2,715	6,109	Slight.	D.a.	Free.
B.S.F. 12 (50)	17,463	29·15	3·93	58·50	1·0765	1·80	·125	·165	86·12	6·94	3,548	6,386	Slight.	Free.	P.s.

TABLE XLVIII.—HAMPTON PLANTATION:—LOWER NAT VALLEY FIELD.

Plant Canes.

1920-1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice.						Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of Insect pests.	
					Sp. Gr. 30° C./16·6° C.	Lb. per gallon of			Quotient of purity.	Glucose ratio.				*Diapreopes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
						Saccharose.	Glucose.	Solids not sugar.							
W. Transparent	12,487	18·58	10·47	55·50	1·0791	1·91	·063	·187	88·43	3·30	2,141	4,089	Bad.	Free.	P.s.
B. 60	14,714	18·04	7·57	60·50	1·0853	2·11	·058	·152	90·95	2·75	2,253	4,754	Slight.	Free.	P.s.
B. 2001	19,118	20·31	8·10	55·00	1·0809	1·98	·083	·147	89·59	4·19	2,315	4,584	Slight.	D.a.	Free.
B. 6450	13,746	24·20	None.	56·00	1·0773	1·85	·125	·135	87·68	6·76	2,818	5,213	Slight.	D.a.	P.s.
Ba. 2471	20,909	17·28	6·71	53·00	1·0809	1·93	·058	·222	87·33	3·01	1,899	3,665	Slight.	Free.	P.s.
Ba. 6032	16,553	29·15	4·09	57·00	1·0721	1·72	·061	·189	87·31	3·55	3,471	5,970	Slight.	D.a.	P.s.
Ba. 8069	16,359	28·00	5·03	58·50	1·0791	1·91	·081	·169	88·43	4·24	3,401	6,496	Slight.	Free.	P.s.
Ba. 11403	17,085	22·49	2·83	53·50	1·0835	2·11	·063	·107	92·54	2·99	2,488	5,250	Slight.	D.a.	Free.
Ba. 11569	16,456	27·55	5·00	54·50	1·0853	2·14	·083	·097	92·24	3·88	3,099	6,632	Slight.	D.a.	Free.
Ba. 14761	15,294	20·33	5·06	56·00	1·0791	1·94	·069	·151	89·82	3·56	2,364	4,586	Moderate.	Free.	P.s.
B.H. 10 (12)	16,456	24·52	5·00	52·00	1·0861	2·14	·044	·166	91·06	2·06	2,630	5,628	Slight.	Free.	P.s.
B.S.F. 12 (34)	12,923	20·63	11·99	55·00	1·0738	1·73	·125	·165	85·65	7·23	2,368	4,097	Slight.	Free.	P.s.

TABLE XLIX.—HANNAYS PLANTATION:—LOWER CUT HILL FIELD.

Plant Canes. 1920—1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C. / 16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests. *Diapreps abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent	12,986	26·29	3·73	60·00	1·0756	1·91	·083	·077	92·27	4·35	3,285	6,274	Bad.	Free.	Free.
B. 67	17,140	34·05	2·35	64·00	1·0747	1·79	·083	·167	87·75	4·64	4,542	8,130	Slight.	Free.	Free.
B. 183	20,447	31·22	1·57	63·00	1·0747	1·87	·074	·096	91·67	3·96	4,099	7,665	Slight.	Free.	Free.
B. 199	19,299	31·29	None.	62·00	1·0721	1·76	·081	·129	89·34	4·60	4,054	7,135	Slight.	Free.	Free.
B. 6450	15,502	26·84	1·95	61·00	1·0676	1·77	·083	·007	95·16	4·69	3,435	6,080	Slight.	Free.	Free.
Ba. 6032	16,697	36·06	1·93	60·00	1·0684	1·73	·100	·050	92·02	5·78	4,537	7,849	Slight.	Free.	Free.
Ba. 7924	17,423	30 96	1·15	60·50	1·0684	1·74	·078	·062	92·55	4·48	3,928	6,835	Slight.	Free.	Free.
Ba. 8409	16,293	34·43	·74	61·00	1·0747	1·85	·083	·107	90·69	4·49	4,377	8,097	Moderate.	Free.	Free.
Ba. 11569	19,681	38·37	1·84	60·00	1·0817	2 07	·093	·067	92·83	4 49	4,767	9,868	Slight.	Free.	Free.
B. H. 10 (12)	17,745	33·31	1·36	61·00	1·0835	2·11	·086	·084	92·54	4 08	4,201	8,861	Slight.	Free.	Free.

TABLE L.—BRIGHTON PLANTATION—RABBIT PEN FIELD.

Plant Canes. 1920—1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Sp. Gr. 30° C. / 16·6° C.	Normal Juice. Lb. per gallon of: Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests. *Diuprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent	18,048	30·41	1·86	58·00	1·0703	1·75	·083	·097	90·67	4·74	3,691	6,459	Bad.	Free.	P.s.
B. 263	22,176	32·40	6·71	59·00	1·0694	1·75	·083	·067	92·11	4·74	4,004	7,007	Bad.	D.a.	Free.
B. 6308	19,536	28·37	·98	59·00	1·0623	1·49	·125	·105	86·63	8·39	3,530	5,260	Slight.	D.a.	P.s.
B. 6450	17,760	30·28	·73	62·00	1·0663	1·67	·063	·107	90·76	3·77	3,944	6,587	Moderate.	D.a.	P.s.
Ba. 6032	15,360	36·00	1·25	61·50	1·0623	1·50	·125	·095	87·21	8·33	4,669	7,004	Slight.	D.a.	Free.
Ba. 7924	18,672	31·14	3·08	57·00	1·0694	1·73	·050	·120	91·05	2·89	3,717	6,430	Moderate.	D.a.	Free.
Ba. 8069	16,537	34·78	1·50	58·00	1·0663	1·59	·125	·125	86·41	7·86	4,238	6,738	Slight.	Free.	Free.
Ba. 8409	16,608	32·14	1·73	59·50	1·0640	1·58	·109	·081	39·27	6·90	3,992	6,307	Slight.	Free.	Free.
Ba. 11403	14,736	28·65	·65	57·50	1·0684	1·70	·104	·076	90·43	6·12	3,454	5,872	Slight.	D.a.	P.s.
Ba. 11569	18,960	39·99	2·53	58·00	1·0676	1·65	·093	·117	88·71	5·64	4,866	8,029	Slight.	D.a.	P.s.
B. H. 10 (12)	17,088	34·88	1·40	58·00	1·0729	1·81	·086	·104	90·50	4·75	4,224	7,645	Moderate.	D.a.	P.s.

TABLE LI.—VAUCLUSE PLANTATION—CAVE GROUND FIELD.

1st Ratoons. 1920-1922.

Name or No. of cane.	No. of canes per acre.	Canes, tons per acre.	Per cent. by number of rotten canes.	Per cent. juice by mill.	Normal Juice. Sp. Gr. 30° C./16·6° C.	Lb. per gallon of Saccharose.	Glucose.	Solids not sugar.	Quotient of purity.	Glucose ratio.	Gallons of juice per acre.	Saccharose, lb. per acre.	Prevalence of Marasmius sacchari, Wakker.	Presence of insect pests. *Diaprepes abbreviatus*, Linn.	*Phytalus smithi*, Arrow.
W. Transparent	20,266	25·77	None.	53·00	1·0756	1·83	·071	·169	88·41	3·88	2,844	5,205	Bad.	Free.	Free.
B. 69	20,592	24·08	None.	59·00	1·0747	1·75	·083	·207	85·79	4·74	2,961	5,182	Moderate.	Free.	Free.
B. 6450	18,849	29·86	None.	61·00	1·0712	1·62	·081	·249	83·08	5·00	3,808	6,169	Slight.	Free.	Free.
Ba. 6032	20,383	38·42	None.	57·00	1·0684	1·66	·063	·157	88·30	3·80	4,591	7,621	Slight.	Free.	Free.
B. 7924	24,273	35·78	2·15	59·00	1·0721	1·75	·076	·144	88·83	4·34	4,410	7,718	Slight.	Free.	Free.
Ba. 11224	23,634	31·13	1·47	51·50	1·0756	1·85	·063	·157	89·37	3·41	3,339	6,177	Slight.	Free.	Free.
Ba. 11569	19,918	40·60	·58	57·00	1·0747	1·81	·083	·147	88·73	4·59	4,823	8,730	Slight.	Free.	Free.
Ba. 12079	27,177	39·56	None.	56·00	1·0703	1·67	·081	·179	86·53	4·85	4,636	7,742	Slight.	Free.	Free.
B. H. 10 (12)	12,337	35·93	None.	51·00	1·0756	1·84	·083	·147	88·89	4·51	4,041	7,435	Slight.	Free.	Free.
B. S. F. 12 (24)	19,918	33·81	5·54	61·00	1·0684	1·67	·119	·091	88·83	7·13	4,323	7,220	Slight.	Free.	Free.
B. S. F. 12 (27)	22,647	35·62	None.	57·00	1·0721	1·72	·069	·181	87·31	4·01	4,242	7,296	Slight.	Free.	Free.